

THE THIRD ANNUAL

Fall Purchasing Number
The
**MANUFACTURING
CONFECTIONER**

Published by THE MANUFACTURING CONFECTIONER PUBLISHING CO., 30 N. La Salle St., Chicago, Ill.

Vol. III

SEPTEMBER, 1923

No. 9



IN THIS ISSUE

Material Handling and Control

Ralph G. Wells

Purchasing Department Forms and Routine

By a Purchasing Agent

Relation Between Purchasing and Production Departments

By a Production Manager

Customs of the Raw Material Trades

A. Adams Lund

History and Manufacture of Molasses

Chas. C. Brown

Hydrometers and How to Use Them





DELFT

The World's Best Food Gelatine

HAROLD A. SINCLAIR, 160 Broadway, NEW YORK

"Price is a relative term — Quality always a concrete fact"

DISTRIBUTORS:

W. G. AHERN

40 Court St., Boston, Mass.

H. A. JOHNSON CO.

221 State St., Boston, Mass.

C. E. RIDDLE

Emerson Tower, Baltimore, Md.

CHERRY-BASSETT-WINNER CO.

22 So. Charles St., Baltimore, Md.

1913 Market St., Philadelphia, Pa.

1139 Penn Ave., Pittsburgh, Pa.

CHICAGO BRANCH

FRANK E. WOODS, Manager, 130
N. Market St.

BLANKE MFG. & SUPPLY CO.

214 Washington St., St. Louis, Mo.

O'BRIEN & BUSHNELL

204 Pioneer Bldg., St. Paul, Minn.

LEE-GREEFFENH CO.

570 Folsom St., San Francisco,
Cal.

CALIFORNIA FOOD PRODUCTS
COMPANY

349 E. Second St., Los Angeles,
Cal.

W. F. DOWNEY

88 Grey Nun St., Montreal, Can.

STOCKS
EVERYWHERE

What Delft Has Done for Users of Gelatine

Do you remember the uncertain and unsatisfactory condition of the gelatine industry before Delft entered the field?

Compare it with present conditions, when every shipment of Delft Gelatine is accompanied by a scientific analysis of its contents; when every shipment is guaranteed free from harmful and liquefying bacteria when delivered; its color and clarity and strength **absolutely uniform**.

The example of Delft has been followed by others, resulting in the raising of standards throughout the trade. But the ideals which gave Delft its leadership will continue to keep it **the World's Best Food Gelatine**.

Send for samples and prices

Members: National Confectioners' Association, Midland Club, Chicago Association of Commerce.

The MANUFACTURING CONFECTIONER

Trade-Mark Registered and Contents Copyrighted, Earl R. Allured

Subscription Price, \$3.00 the year. \$10.00 for 5 years. Single Issues, 50 cents.

*A Specialized Technical and Commercial Magazine for Confectionery
Superintendents, Purchasing Agents and Executives*

PUBLISHED MONTHLY BY

THE MANUFACTURING CONFECTIONER PUBLISHING COMPANY, Inc., Chicago and New York

Publishing Office: 30 North La Salle St. (Stock Exchange Building), CHICAGO

EARL R. ALLURED, Editor and Publisher

Circulation Manager
PRUDENCE M. WALKER

Special Field Representative
GEO. A. McLEARN

New York Office, Suite 627, 44 Whitehall Street
ALEX HART, Manager

New England Manager: C. A. Stone, 27 School St., Boston, Mass.

TECHNICAL DEPARTMENT:

DR. A. P. BRYANT,
Consulting Chemist for
National Confectioners' Assn.

DR. FREDERIC W. MURPHY,
Consulting Chemist.

DR. M. A. POSEN
ROBT. SCHWARZ
Schwarz Laboratories

FRED. W. AMEND, Secy.,
Chicago Association Con-
fectionery Superintendents.

Vol. III

SEPTEMBER, 1923

No. 9

POLICY

THE MANUFACTURING CONFECTIONER, being a specialized publication for manufacturing confectioners exclusively, is edited in the interest of the executive, the purchasing, production and sales departments, and provides a medium for the free and frank discussion of manufacturing policies, problems, methods and materials.

The same corresponding policy applies to the advertising pages which are available only to the supply manufacturers for the advertising of products which are used by the manufacturing confectioner—machinery, raw materials and factory supplies, etc.

The Manufacturing Confectioner believes in

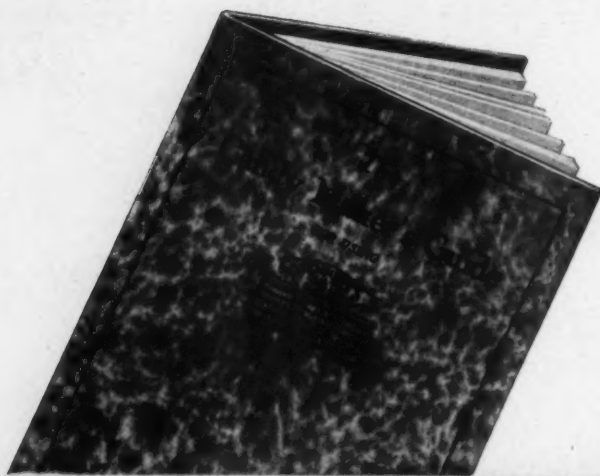
A Technical Candy School with resident and extension courses for factory superintendents and journeymen candy makers.

Rigid Inspection of candy factories to enforce sanitation and working conditions necessary for the production of a pure food product.

Pure Food Legislation which enforces a quality standard for confectionery.

Uniform Method of cost finding and accounting.

An Annual Exposition of Confectioners' Supplies and equipment under direction of an association of confectionery supply manufacturers.



This booklet describing in detail our entire line and many tested formulas will be sent free on request.

Let us send you your copy.

SENNEFF-HERR Candy Maker's Specialties are of "Sterling" Quality

CREAM CARAMELS OF QUALITY

FOR the manufacture of a standing cream caramel of superior quality as smooth and rich in flavor as one made from all pure sweet cream, we have developed our **X-L Cream Caramel Paste**. It excels because it actually produces a more pleasing flavor than all-butter-fat candies while reducing the costs to a minimum.

May we send you **The Candy Maker's Guide** with formulas for producing these caramels with better eating and standing qualities?

X-L Cream Caramel Paste is used also in Dipping Caramels, Fudges of all kinds, Butter Creams, Opera Cream Caramels and Kisses, etc. The Candy Maker's Guide—sent free on request—tells the whole story.



These Sterling Brand Specialties are the foundation materials back of many successful confections put out by the foremost manufacturing confectioners in this country. Perhaps we can help you too. May we suggest a solution of your problem?

Senneff-Herr's "Big 3."—Products you should know about

Egg O Creme "The Best for Cream Centers"

Makes a soft, snowy-white, velvety and creamy starch mold center that ripens ready for the market in a very few days.

Also a center that is easy to dip with a small percentage of coating, on account of a smooth, firm crust and the absence of starch.

X-L Cream Caramel Paste

We guarantee X-L CREAM CARAMEL PASTE not to turn rancid, sour

nor curdle. It makes a caramel as smooth as one made from pure sweet cream at LESS COST and has a richness of flavor that is true to its name. It EXCELS.

Nougat Whip

is monarch of them all in quality, lightness, smoothness and flavor. Our NOUGAT WHIP is made from pure Hen Egg Albumen. IT IS ABSOLUTELY FREE FROM SUBSTITUTES.

NOUGAT WHIP belongs to Senneff's "Big 3" family.

Other competitive products to meet price competition

SENNEFF-HERR COMPANY, Sterling, Ill.

You may send a copy of your **Candy Maker's Guide**—without obligation.

Name.....

Per.....

Address.....

INDEX TO

The Manufacturing Confectioner's Approved Advertising of Confectioners' Machinery and Supplies

and Miscellaneous Advertising Directed to Manufacturing Confectioners

POLICY: THE MANUFACTURING CONFECTIONER is essentially a manufacturers' publication and therefore is a logical advertising medium only for confectioners' supplies and equipment. The advertising pages of THE MANUFACTURING CONFECTIONER are open only for messages regarding reputable products or propositions of which the manufacturers of confectionery and chocolate are logical buyers.

This policy **EXCLUDES** advertising directed to the distributors of confectionery, the soda fountain and ice cream trade. The advertisements in THE MANUFACTURING CONFECTIONER are presented herewith with our recommendation. The machinery equipment and supplies advertised in this magazine, to the best of our knowledge, possess merit worthy of your careful consideration.

CANDY AND CHOCOLATE MACHINERY FACTORY EQUIPMENT

Bentz Air Conditioning System.....	42
Carver Cocoa Butter Presses and Accumulator System.....	41
Eppelsheimer Chocolate Molds.....	66
Gilmer Belts	41
Mills Automatic Hard Candy Machine.....	39
Mills No. 10 Ball Machine.....	39
National Equipment Machinery.....	36-37
Powers Temperature Regulator	32-33
Simplex Plastic Press.....	38
Sturtevant-Fleisher Air Conditioning System.....	34
York Continuous Candy Cutter.....	35
Wrapping Machines	40

CONFECTIONERS' SUPPLIES RAW MATERIALS

Amaizo Corn Syrup and Starches.....	66
Atlas Brand Certified Colors.....	16
Confectioners' Crystal Corn Syrup.....	67
Ceylon Desiccated Coconut	15
T. M. Duche & Sons.....	68
Egg Albumen	14
Haehnlen's Chocolate Hardener.....	64
"Holdform" Starch	15
Mapleine	62
Merrell-Soule Powdered Milk	65
National Certified Food Colors.....	63
Nucia Butter	8
Nucoline	8
Nulomoline	Insert
Senneff's Big 3.....	4
Staley's Crystal Corn Syrup.....	61
Thurston and Braidich—Gums and Vanilla Beans.....	68
White-Stokes Radnor Creme	13

Flavors

Atlas Brand Flavors	16
Bush's Flavors	12
Footo & Jenks Natural Fruit Flavors.....	63

Fries & Bros. Flavors.....	65
Fritzsche Bros. Flavors	6
Ungerer's Fruit and Floral Flavors	7
Vanillin Monsanto, Coumarin-Monsanto	15
Vanoleum	64

Chocolate

Baker's Chocolate Coatings, Liquors and Cocoa.....	67
"Fortune" Chocolate Coatings and Liquors.....	64
Ideal Coatings and Liquors	62
Peter's Chocolate Coatings	61

Gelatin

Atlantic Gelatin	9
Crystal Gelatin	14
"Delft"	Second Cover
Dunn's Gelatin	66
Duche's Dagger Brand Gelatin	68
Essex Gelatin	65
Milligan & Higgins Gelatin	67
Swift Gelatin	62
Ucopco Gelatin	10-11
"U. S. Gel"	Third Cover
Whitten's Gelatin	63

For the Package and Bar Goods Departments

American Bon Bon Cups, Boxes, Laces, etc.....	58
Conley Foil	58
Karl Pauli Wrappers, Aluminum Foil, Bonbon Cups.....	59
Cellophane	57
Schultz Boxes	60
Seals	59
Seals	60

MISCELLANEOUS

Kapak	59
Schwarz Laboratories	54

Brokers

Emil Pick	61
Marcone & Company—Cocoa Beans and Cocoa Butter.....	66
Von Dannenberg & Company.....	68

Essential Oils, Fruit Flavor Bases, Cumarin and Vanillin

Oils of Spearmint and Peppermint, Absolutely Pure and of Finest Flavor

Oil Limes, Lemon and Sweet Orange, F. B., Handpressed

All Spice Oils Used in Confectionery

OF UNEXCELLED QUALITY

Hard Candy Flavors

APPLE
BANANA
BLACKBERRY
CHERRY (with Pit Flavor)
CHERRY (without Pit Flavor)
CHERRY, Wild
CURRANT, Black

CURRANT, Red
GOOSEBERRY
GRAPE
HONEY
LOGANBERRY
PEACH
PEAR

PINEAPPLE
RASPBERRY
ROSE
STRAWBERRY
STRAWBERRY, Preserved
VIOLET

THE reception accorded to this new group which we placed on the market only a short time ago, has been gratifying and supports all we claim for them. These flavors are of the highest concentration, have the delicious aroma of the fruit itself and have been manufactured with a special view to permanence, and TO

WITHSTAND CONSIDERABLE HEAT. In addition to the large amount of natural extractive matter from the fruits present, the Flavors contain sufficient Esters to provide the necessary strength and impart the special characteristics necessary and claimed for this group. Recommended for

FRUIT TABLETS, LOLLY POPS, STICKS, PAN WORK, CHEWING GUMS, AND WHEREVER THE FLAVOR MUST BE INTRODUCED AT HIGH TEMPERATURES.

TRUE FRUIT AROMA ESSENCES

Extra Concentrated

For fifteen years these pioneer flavors, extracted directly from the fresh ripe fruits, with no added flavor or color, have had preference with those manufacturers to whom *quality* is more important than *cost*. The flavor of perfection for Cream Centers de luxe.

FRITZBRO-AROMES

Are the *ideal flavors of highest concentration*, based on true fruit extractions and slightly fortified with natural esters for strengthening and to accentuate special characteristics of the fruit. A strictly *true fruit flavor effect* in a concentration much greater than can be produced in a natural true fruit essence.

FRITZBRO MAPLE BASE

A well nigh perfect reproduction of the universally liked product of the Northern Sugar Maple tree.

Two novel flavors for Fine Confectionery:

FRITZBRO SHERBET

ESSENCE OF ROMAN PUNCH

afford delicious, tasteful additions to any line

With these various groups any problem of flavoring Candies of whatever nature can be promptly and successfully solved. Samples and details will be cheerfully furnished upon application.

Fritzsche Brothers, Inc., New York

Chicago Branch: 33-35 West Kinzie Street

Nulomoline for Better Candy



NOUGAT

SINCE nougat is a really high cooked marshmallow, NULOMOLINE serves in practically the same way as in marshmallow. It prevents *short* nougat from drying out, and chewing nougat remains *chewy* when made with NULOMOLINE.

*P.S. Nulomoline makes
Candies that keep.*

The Nulomoline Company
New York :: Chicago :: Boston

*This advertisement is
one of a series. Next
month — Coconut
Confections*

NOUGAT

ALBUMEN NOUGAT, Gelatine Nougat, Short Nougat, Chewing Nougat, Cast Nougat, Cut Nougat, Light, Heavy, Dipping and Wrapt Nougat, are found in our Service Department's collection of nougat formulas. Every maker of nougat should add to his stock of knowledge what we know about making these goods. Molasses Nougat is one of the new combinations we have made up, and it is certainly a smooth eating piece of goods. Our Cast Nougat is interesting, because it is not only a nice piece of goods, but it is easy to make and handle.

If you wish a special formula, in all probability we have it. Owing to the fact that our booklets are printed only about once in two years, they rarely contain all that we know about any given subject. We will gladly work with you in the production of a new combination. We can tell you what proportions to use to secure a chewing nougat that will remain chewy. We have full details concerning the making of Short Nougat, or any of the other kinds or grades mentioned. State your case and we will answer your questions. Our candy makers can be your consulting candy makers, if you will use them.

The coupon is for your convenience.

All formulas and information sent without obligation

M-9

Service Dept. THE NULOMOLINE CO., 109-111 Wall Street, New York, N. Y.

Please send me your formulas for
(Check those desired)

Nougat	<input type="checkbox"/>	Cast Creams	<input type="checkbox"/>	Name _____
Caramels	<input type="checkbox"/>	HandRolled Creams	<input type="checkbox"/>	Position _____
Fudge	<input type="checkbox"/>	Hard Candy	<input type="checkbox"/>	Firm _____
Marshmallow	<input type="checkbox"/>	Coconut Work	<input type="checkbox"/>	Street and No. _____
Jellies	<input type="checkbox"/>	Bon-Bons	<input type="checkbox"/>	City and State _____

Flavoscents

CONFECTIONERS' FLORAL FLAVORS

Palatability in Floralty

HE who values the delicacy which a well chosen floral essence imparts to the savor of confectionery products might profitably test our Confectioners' Floral Flavors. They are new to the confectionery industry and freshly true to the growing flower in odor, taste and palatability. An original, novel and exclusive method of extraction makes them possible.

As seasoned experts in the development of exquisite floral effects we are peculiarly well qualified to supply the manufacturing confectioner with floral flavors that are loyal to flower odor and most agreeable to the taste. Their concentrated strength makes these products far-reaching and thus extremely economical.

Heliotrope

Honeysuckle

Jasmin

Lilac

Orange Flower

Lily

Rose

Iris

Violet

UNGERER & CO.

NEW YORK



How To Salt Peanuts

That's the big question today.

For properly salted, the humble goober has risen to the position of the most popular "citizen" in the land.

So the problem is how to produce the tempting golden color, the sweet out-door flavor of the first Autumn nuts; and most of all how to insure against rancidity. The answer is

NUCOLINE

100% Pure Nut Oil, snow-white in color, free from taste and odor. Comes to you fresh and sweet and keeps so in your products from kettle to consumer.

NUCOLINE has been the Leader for twenty-five years. And its users are the Leaders in the Industry today.

And not only is NUCOLINE unsurpassed, but NUCOLINE service is without a parallel.

Write for new folder, giving scientific method of "How to Salt Peanuts." Ask for your copy of "Above the Salt." If you want our Expert to call—ask for him.

Our service offers to you the *personal* Service of an Expert in Nut Salting. He will visit your plant and show you *how to salt nuts*. He will help you to work out new formulae for special products. He will advise you in person or by mail what kind of kettles to use—what machinery. And his services are absolutely *free* and are yours for the asking, whether you use NUCOLINE or not.

THE BEST FOODS, Inc.

CHICAGO
111 W. Washington St.

NEW YORK CITY
Nucoa Building
4th Ave. at 23rd St.

SAN FRANCISCO
1964 Bryant St.

Goes Farther—Costs Less



**"Purest and Best—
It Stands the Test"**

Make This Start

Make the test of trying out our gelatine by ordering a barrel from the nearest office. Use five or fifteen pounds and if it doesn't match up with our claims for it, send the unused portion back. We will pay the freight both ways.

**Meet us at the Cleve-
land Show at Booths
37 and 38.**

Cheap gelatine is expensive and it is unsatisfactory. It must be used in larger quantities than a good gelatine. The results are varying.

Better to use a dependable, clear, high-quality gelatine that you know is all right and that will go farther. Although our highly specialized method of making Atlantic super-clarified Gelatine has elevated the manufacturing costs slightly, we sell it at a lower price than other ordinary gelatines of corresponding grades.

And our gelatine is safe.

It easily passes the pure food requirements of every state in the Union. It is of high viscosity, of exceptional purity and clarity. You can't overlook the importance of a *safe* gelatine. Standardize on Atlantic super-clarified Gelatines.

Atlantic Gelatine Company
WOBURN, MASSACHUSETTS

Branches

Chicago: Suite 510, 118 N. La Salle Street
New York City: Room 1081 Woolworth Building

ATLANTIC ^{Super-Clarified} GELATINE

The Old Process

A Better Made By a

Until our scientists and engineers invented the "Wheel Process" of drying gelatine, all manufacturers made what is called "Tunnel Dried Gelatine"—the usual granulated gelatine daily offered you.

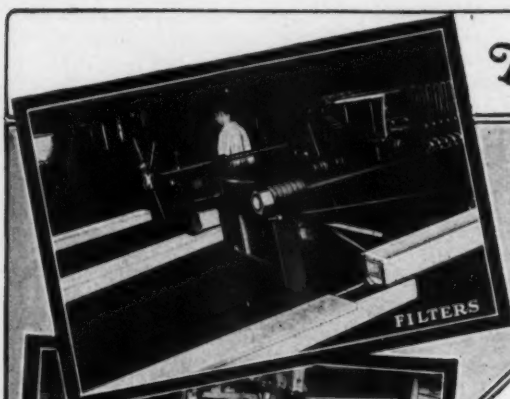
By this Tunnel Process, the gelatine goes from the cookers, through the filters, and in best equipped modern factories, to a chilling, cutting and spreading tunnel, and is deposited on nets to dry. This drying operation is accomplished by passing these nets through a series of cold and hot tunnels and blowing millions of cubic feet of air over the thin film of gelatine. In spite of the fact that the air is usually filtered and washed, all dirt and dust cannot be excluded, and the gelatine is contaminated thereby.

Furthermore, the temperature in the drying tunnels is just right to promote the rapid growth of bacteria.

As leaders in the world's production of gelatine, it is only natural that we should also lead in the development of new processes and equipment for the improvement of edible gelatine—the result is our Wheel Dried Process—the greatest advance the industry has ever known. Instead of exposing the gelatine to the air from 16 to 48 hours, as in the tunnel process, it is packed in barrels in less than 5 minutes from the time the liquid gelatine leaves the cookers.

There is no comparison between Wheel Dried and Tunnel Dried Gelatine in purity and bacterial count. We know, for we make both kinds and test them continually. Wheel Gelatine is free from dirt. It is also free from harmful bacteria. And our customers were not long in discover-

No. 1 shows the filtering process from which the liquid gelatine goes through the cooling tunnels where it is deposited on aluminum nets (Fig. 2) and dried by enormous volumes of air as it passes through a series of hot and cold drying tunnels (Figs. 3 and 4). The dry gelatine is then knocked from the nets (Fig. 5); put through crushers, and packed for shipment. 16 to 48 hours are required to complete this process.



Ucopeno Pure

The New Process

Gelatine Better Process

ing the difference, for now more than 90% of them demand Wheel Gelatine, and the balance are rapidly turning to it.

So great is the improvement in the product that two of our leading competitors have already made overtures to us to permit them to make Wheel Gelatine on a royalty basis.

UCOPCO Wheel Gelatine costs no more than ordinary gelatine, but the superiority of the product is readily apparent. Let us send you a sample. Test it. Compare it with any other gelatine on the market. You will be surprised at the improvement it will make in your marshmallow, ice cream, or in any other food product.

United Chemical & Organic Products Company

Home Office

4200 South Marshfield Avenue, Chicago

Branches

New York

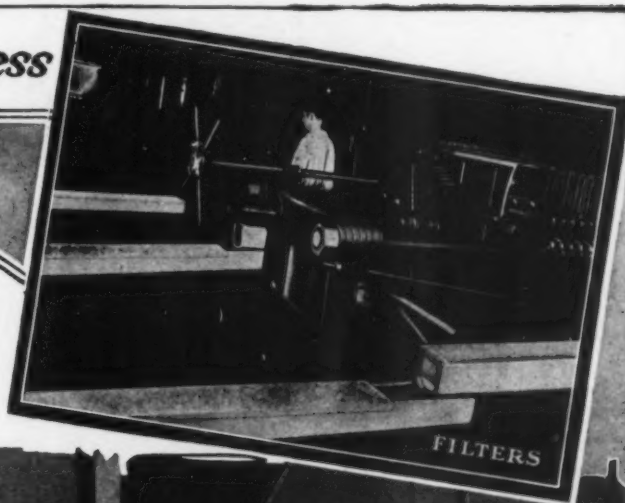
New Orleans

Milwaukee

Detroit

San Francisco

By our Wheel Drying Process, the liquid gelatine from the filters (Fig. 1) is piped directly to the wheel (Fig. 2), where it is dried and packed. This is done in less than 5 minutes.



Food Gelatine

Fruit Flavors, Essential Oils, Food Colors

Have you yet made a practical trial with

OIL SWEET ORANGE CALIFORNIAN

Pressed at National City, Cal.

The following are among our list of candy flavors that have proven their merit with manufacturers who demand quality:

Butter	Honey	Pear	Plum
Cherry	Loganberry	Peach	Raspberry
Grape	Maple	Pineapple	Strawberry

Samples cheerfully furnished on request.

Every purchasing agent or candy superintendent should have our price list showing entire line; send for your copy.

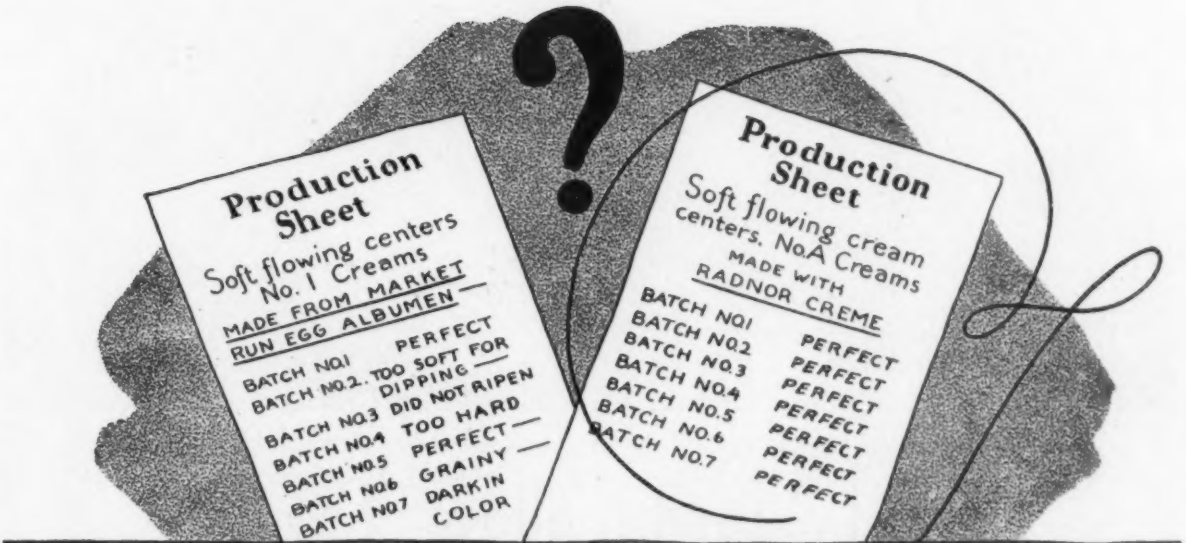
W. J. BUSH & COMPANY, Inc.

370 Seventh Avenue, New York City, N. Y.

1018 S. Wabash Avenue, CHICAGO

70 Kilby Street, BOSTON

394 St. Paul Street, W., MONTREAL



That Precious Uniformity !

LET our new process for making soft flowing cream centers aid your manufacturing department in obtaining uniform results.

The customer who eats your candy because he likes your brand demands and expects the same character whenever he buys your goods. *Uniformity!*—batch after batch, package after package, piece after piece—that's the secret of a successful brand!

Radnor Creme is the new way of assuring uniformity. Let it help you. A trial order, together with proven formula, will be sent on request.

Made Only by **WHITE-STOKES CO., Inc.**
3615-23 Jasper Place, Chicago 253 36th Street, Brooklyn



The Bacteriological Laboratory of the Crystal Gelatine Co. at Peabody, Massachusetts

Avoid Marshmallow Troubles

*Exploding and Fermenting Marshmallows can be prevented
by using Crystal Gelatine made especially
for Marshmallow manufacture.*

Liquefying Bacteria more than any one other one factor is responsible for burst and fermented marshmallows, according to many authorities within the candy industry.

A certificate of analysis showing that Crystal

Marshmallow Gelatine is practically sterile—as pure as pure air itself—will be sent on request with each shipment. Our chemists in our own laboratory keep a vigil which results in a quality gelatine which is as pure and uniform as human minds and hands have yet produced.

*May we submit samples with suggestions
on your Marshmallow problems?*

CRYSTAL GELATINE CO.

121 Beverly St., Boston, Mass.

Branch Stores

New York
14 Ferry Street

Philadelphia
418 Arch Street

Chicago
3630 Iron Street

St. Louis
408 Elm Street

San Francisco
Fairfax Avenue and Rankin Street



STARCH

"HOLDFORM"

is a moulding starch which requires no curing, and does not crack, crumble or adhere to the candy center, but holds its form in a manner that makes for economy and production.

Other Stein Hall Confectionery Products:

EGG ALBUMEN
CEYLON DESICCATED COCONUT
RICE FLOUR

We solicit your inquiries

STEIN, HALL & CO., INC.

61 Broadway
NEW YORK

STEIN-HALL MFG. CO.

2841 So. Ashland Avenue
CHICAGO

QUALITY AND SERVICE SINCE 1866



VANILLIN-Monsanto is packed in suitable containers (1 oz. to 500 oz.) in a room flooded with light and separated by an all-glass partition from the handling of other products. A pure, uncontaminated product results.

Vanillin-Monsanto An Economical Flavor

One ounce of VANILLIN-Monsanto is the equivalent of two and one-half pounds of vanilla beans in flavoring strength. This remarkable efficiency, plus a rigidly enforced standardization which permits reliable helpers to do the work of highly trained specialists results in remarkable economies. Its relatively free solubility in low-proof alcohol and glycerine water mixtures at between 81° and 82°C. is another economical feature



Send for Booklet

We have prepared an interesting booklet on the history of VANILLIN—its introduction, adoption and remarkable popularity as a flavor. If you have not received a copy, write for it today.

VANILLIN-Monsanto, the Pure White Vanillin.

Manufactured by

Monsanto Chemical Works
ST. LOUIS, U.S.A.

New York

Chicago

Uniformity—Strength —Purity



"Atlas Brand" Colors

(All Shades)

Certified Combination Colors
Certified Primary Colors
Certified Paste Colors
Vegetable Dry Colors
Vegetable Paste Colors
Atlas Carmine No. 40

"Atlas Brand" Flavors and Extracts

Genuine True Fruit Extracts
Imitation Fruit Flavors
Conc. Imitation Fruit Flavors
Pure Vanilla Extracts
Imitation Vanilla Flavors
Maple Flavors

The colors and extracts you use in the manufacture of your product can either add to its ultimate success or be the means of failure.

"A chain is no stronger than its every link."

A poor color or a cheap flavor can ruin the best confection.

"Atlas Brand" colors and extracts are uniform, strong and pure. They are the result of seventy-two years of perfection. Their perfection is recognized by many of the country's foremost Candy manufacturers and their use is employed in every part of the country.

A trial quantity of "Atlas Brand" colors or flavors will be gladly sent on request with the understanding that they must satisfy—otherwise returnable at our expense.

H. KOHNSTAMM & CO., Inc.

CHICAGO

11-13 E. Illinois St.

NEW YORK

83-93 Park Place

ESTABLISHED 1851



The Third Annual Fall Purchasing Number

For the benefit of our newer subscribers we might explain that we have established a precedent of devoting one issue—the September number—each year almost exclusively to the subject of purchasing, a “Buyer’s Departmental” as it were. *Every issue* has its share of reader-interest for the buyer, however it is our policy to let the Purchasing Department have the floor and subordinate other phases of candy factory management in this particular issue.

Our January issue 1924 will be the third an-

nual “Superintendents’ Number,” an issue devoted to “Production” and discussions by and with Superintendents and practical candy men.

Our issue of March 1924 will be the third annual “Sales Managers’ Number” in which the subject of “Sales Promotion and the Merchandising of Confectionery” will dominate the issue. We like to have our readers participate in these issues in form of letters, short articles or open round-table discussions on any angle of the sales, purchasing or production problems.

An International Information Service for Manufacturing Confectioners

(Illustrated on Back Cover)

Inasmuch as the prospectus of the Blue Book is directed to the confectionery supply manufacturers, the buyers (who are the prospective users of the book) will appreciate, we believe, a further statement regarding the purpose and proposed contents of the book. The following is quoted from the prospectus:

THE MANUFACTURING CONFECTIONER'S BLUE BOOK will meet the urgent need for an up-to-date annual book of reference containing the current information about the confectionery industry as a whole and a complete buyers' index and cross index of all commodities used in the manufacture and distribution of confectionery together with their scores of supply listed in full. It will be the first and only reference medium of its kind in the world for the manufacturers of confectionery and chocolate—a combined Year Book and Supply Catalog.

THE BLUE BOOK will contain as a part of the same volume, the condensed catalogs of the leading suppliers to the manufacturers of confectionery so standardized, classified and indexed (geographically and alphabetically) as to constitute a boiled down practical working register of information from the supply field—a buyers' catalog file reduced to its essentials for desk use.

THE BLUE BOOK will be the nucleus and medium of contact for a well organized information service for manufacturing confectioners over an international area, a service which will not only bring buyers and sellers together, but handle miscellaneous inquiries regarding the managerial and technical problems of our subscribers.

THE BLUE BOOK also completes the cycle of service to the confectionery supply field by providing the most economical means of establishing and maintaining a permanent contact, in form of the printed word, with both the potential and actual market for their products.

Allured's Official Directory of American Manufacturing Confectioners

The Blue Book of 1924 will be issued in two editions, American and Foreign. The American edition will be presented free of charge to subscribers of THE MANUFACTURING CONFECTIONER; the book itself will be its own best evidence of its practicability and usefulness to the industry. Therefore, in connection with the distribution campaign for The Blue Book, we will start immediately the compilation of a directory of American Manufacturing Confectioners; the data will be taken *officially* from reports received direct from the confectioners themselves. Registration blanks (as a guide to the information desired regarding each firm) will be sent out this month to our subscribers. The book will be 6 x 9 inches and will be sold to candy buyers and confectionery supply firms. *It will carry no advertising.*

Enlist the Jobber's Salesman

It is interesting to note the wave of increased interest which is being focused on the retailer in all lines of industry especially in the wake of the government's survey of retail distribution which was recently made by the Department of Commerce. The Central Club has taken the initiative in our industry to investigate the methods in use by candy retailers with the idea of making a consistent and effective campaign for *better* methods of merchandising confectionery through their retail distributors.

A Sales Promotion Committee has been appointed, with C. H. Voegelé as chairman, and their first move to enlist the active co-operation of jobber's salesmen is a very constructive one.

Material Control Systems



The Ninth article of an extensive series on

Candy Factory Management Methods, Factory Practices Material Handling, Labor Management, Etc.

Based on personal interviews with manufacturing confectioners and a special investigation of their manufacturing problems

by **Ralph G. Wells**

*Member Committee on Industrial and Commercial Planning, Boston Chamber of Commerce.
Member of Faculty, Boston University—College of Business Administration.
Formerly President National Association of Employment Managers.*

Exclusively for The Manufacturing Confectioner

ONE of the principal problems in the confectionery industry is that of making sure that a sufficient quantity of the right kinds of materials are on hand and available for use as needed. This is easier said than done, for a greater part of the materials are of a seasonal and somewhat perishable nature. Many of them will deteriorate rapidly unless properly handled and stored under the right conditions. Furthermore, crop conditions seriously affect the quality and quantity of such items as fruits and nuts. Add to this the complications of constant market fluctuations and you have a problem of much complexity.

Nevertheless the candy manufacturer must keep his plant constantly supplied with such materials as are needed and at a price that will permit their being manufactured into candy at a profit. In order to accomplish this, definite methods of material planning, purchasing and control have been worked out. In many plants this has been done more or less unconsciously. In fact, some of the firms from whom the data for this article have been secured do not realize that they maintain all the elements described below. Nevertheless practically every candy plant of any size is accomplishing the functions discussed here by some method or other, whether they realize it or not.

Since the various steps or results described must be accomplished in some manner, it is worth while examining somewhat critically the methods used. It is desirable to search out the best method and adopt it as a guide. This is just what many of the successful confectioners are doing. By a process of experimentation and elimination they are selecting the better

and surer methods of control and adopting them as standards until some more effective and therefore more economical mode of procedure is discovered or developed.

Material Standards

Clearly defined standards for each major commodity or article used are essential as a basis for any effective system of material control. These standards should cover the following points:

- a. Purchasing specifications as to kind, variety, grade, quality, color, condition, chemical properties, size, weight, or any other essential characteristics.
- b. Maximum and minimum quantities to be carried on hand at different seasons, depending upon business conditions and sales estimates. Also the most economical quantities in which to purchase.
- c. Conditions under which commodity should be stored and handled in order to avoid deterioration, spoilage or waste.
- d. Methods to be followed in preparing for use, together with specifications as to condition in which material must be put for use.
- e. Methods to be followed in working up material and the way in which it must be handled during processes.
- f. Quantities to be used in each batch and in order to secure certain output together with percentage of waste allowance.
- g. Method of handling and reclaiming scrap.

All of the foregoing standards are needed to insure the purchasing of the right material and the keeping of it in the best condition as well as to secure maximum utilization. As is the case with other standards, these are of no value unless they are backed up by some effective method of control which will insure their maintenance.

The best standards are those which have been developed as a result of actual production experience and verified by laboratory experiments.

Comparatively few candy plants have consciously set themselves to the task of working out standards for all of the materials used. To a large degree the standards in existence today in the industry are the result of accumulated experience.

There are, however, at least a few confectionery plants where each of the more important items used have been studied systematically both in the plant and in the laboratory. After the principal departments affected have completed their studies and experiments, staff conferences are held, notes compared and standards agreed upon. Of course, these must be revised from time to time in the light of new developments and experiences.

One phase of material standardization that has been receiving a great deal of attention lately in this industry is the cutting down of the number of different kinds of manufactured products. It has been found that in many cases the number or varieties of candy carried on hand can be reduced without any disadvantage in volume. This simplifies both the purchasing and stores problem and frequently lessens by just so much the amount of money tied up in inventories. Often slight changes in formulas will permit the use of the same material in a number of varieties. To this end, a certain amount of missionary work is necessary among the candy makers to convince them that just as good results can be obtained.

Determining Quantities

In determining upon the maximum and minimum quantities to be purchased and carried on hand the following points should be taken into consideration:

- Quantities used under normal conditions.
- Quantities required by production program for given period.
- Length of time required to replenish stock.
- Seasonal fluctuations.
- Market fluctuations.
- Distance from sources of supply.
- Transportation conditions and complications.
- Possibility of scarcity of material.
- Deterioration and keeping qualities.
- Cost of storing and protecting.
- Value of storage space.
- Quantities in which material must be purchased to secure lowest prices.
- Possible emergency needs.
- Carrying costs, including—interest on money invested, storage cost, shrinkage, deterioration, waste in storage, possible changes in material required for product.

The Order Point

In general practice the minimum figure is also the order point; in other words, when the amount of any material reaches this minimum, new supplies shall be ordered. A somewhat better practice, however, is to establish an order point slightly above the minimum, so that new supplies will be purchased before the minimum is reached. The maximum and minimum amounts to be carried are entered on the stores

Essential Phases of Material Control

DECIDE what is the best kind and grade of material to be used for each variety of candy manufactured and establish standard purchasing specifications and standard instructions for the storing, handling, preparation, and use of each class of material.

DETERMINE from production programme and schedules the amount of materials needed for each season or production period and contract for or purchase only sufficient quantities to take care of these requirements adequately. Avoid buying more than requirements call for except in the case of seasonal products and of materials subject to market fluctuations, where it is necessary to protect yourself against shortage or high prices. Establish a scale of maximum and minimum quantities to be carried on hand, varying in accordance with business conditions and seasonal demands.

CENTRALIZE all purchasing in the hands of a competent executive and give him ample facilities for studying and keeping in contact with markets, sources of supply, economic conditions, and for determining whether samples presented and materials purchased are up to requirements.

ARRANGE a persistent follow-up of all goods purchased and shipped in, to insure prompt deliveries of materials as needed.

SEE that all shipments received are fully inspected as to quality and condition, likewise checked as to quantity and conformity to specifications, and that invoices are compared with purchase orders.

PROVIDE adequate storage facilities for different grades of material, where they can be kept in good condition and protected from deterioration, theft, and wastage.

INSTALL an effective stores system to insure economical handling and issuing of materials, accurate accounting for materials used, control of raw material inventories, and keeping track of quantities on hand, ordered in, received, reserved for future needs, issued, balances available and to be purchased.

EQUIP the plant with adequate facilities for the handling, moving, care, and conditioning of material and work out and standardize upon the best method for the use and operation of these facilities.

WORK out also and standardize upon the most effective and economical methods of handling, conditioning, and using material. Train employees to perform their work in accordance with these standards and by proper supervision and inspection see that standards are maintained.

KEEP careful record of materials used in various processes together with percentage of waste or scrap and any variations from formula or recipe standards. Use this record as a basis for factory costs.

SEARCH out systematically causes of unnecessary scrap or waste and study the best method of eliminating these. Train employees to appreciate the cost of waste and the value of scrap material. Handle and rework scrap in so far as feasible with relatively as much care as fresh material.

record card and as soon as the quantity in the storeroom falls to either the order point or the minimum quantity, the planning or production department is notified by the stores keeper and instructions to replenish are sent to the purchasing department for a sufficient quantity to bring the supply up to the normal amount so as to take care of the production requirement for the ensuing period. Naturally from a financial standpoint the quantities to be carried on hand should be set as low as possible.

Are Written Standards Needless Red Tape?

There are some who question the value of such standards as are mentioned here, regarding them as needless "red tape," not sufficiently flexible for a business operating under such varying difficulties as the confectionery trade does. Others find that standards save time, avoid confusion and prevent mistakes. Where they do not exist the purchasing agent has to take the time to set temporary standards for himself every time that he makes an important purchase. Often he must do this hastily and without consulting other department heads. Also his decisions must vary from time to time, depending on his mood and the persuasiveness of those with whom he is dealing. On the other hand, predetermined standards make it unnecessary for him to stop to figure out quantities, to decide technical questions, or to consult others, at a time when he should be free to give his entire attention to negotiations. Furthermore, standards represent deliberate decisions based on a full study of the facts and participated in by several executives, and are therefore likely to be more sound.

A good illustration of this is the question as to whether it pays to decide in advance just what are the most economical quantities to buy at one time. The decision as to what sized lots should be ordered depends on a number of factors, most of which were mentioned above. Only a superman could think of all of these factors at one time and give each its due weight while a persuasive salesman was urging his wares. The quantity to be bought depends not only upon the amount needed, but also on the storage facilities available, the ease with which new supplies may be secured, market and financial conditions, and all of the other elements listed above, and is to be arrived at only after due deliberation and a nice balancing of the factors involved.

Centralized Purchasing

Where the ingredients and their cost play such an important part in an industry, the purchasing must necessarily be in the hands of a competent man. In moderate-sized plants one of the principal owners or managing executives frequently handles this function in addition to other duties. In the larger organizations, however, the purchasing requires so much attention that it calls for the entire time of at least one man, together with such assistants as may be

needed for the efficient operation of a well-organized buying department. Experience has shown that the purchasing agent can do his work more efficiently if he is relieved of other routine details so that he can concentrate his attention on market and crop conditions and keeping in touch with the trade. For this and other reasons, the practice among the larger plants is to centralize all the purchasing in one department, placing at the head of this department a thoroughly competent man who knows the materials and the requirements of the candy trade. His department includes one or two assistants who handle the buying of smaller items and conduct many of the preliminary negotiations on larger matters. In many plants one assistant handles the raw materials and another the packing materials. There is also sufficient clerical assistance to handle the necessary correspondence, file catalogs, quotations, to follow up purchase orders and check invoices as they come in.

What Do You Mean "Purchasing"?

Purchasing is not merely a question of getting the best prices or driving the shrewdest bargain, as the industry has found that a dependable quality, reliable service and an almost unfailing source of supply are far more important than mere cost. The department must not only keep in touch with salesmen and the trend of the market, but must also study thoroughly economic conditions in order to gauge the trend of prices. Purchasing has become in many plants a highly specialized function and includes among others the following duties:

- a. **STATISTICAL AND RESEARCH.** This includes thorough study of the markets, crop and trade conditions, the seeking out of the best sources of supply and keeping on the lookout for new materials that may be used to advantage. This function is of more importance than is ordinarily realized, as the purchasing agent's value to his organization depends largely upon his knowledge of the market, resourcefulness in getting goods and ability to forecast price trends.
- b. **BUYING.** This includes the getting in touch with suppliers, interviewing salesmen, securing prices and quotations, examining samples and negotiating the actual purchase. This phase, of course, is the largest.
- c. **FOLLOW-UP.** This phase of purchasing is more or less routine except when emergencies arise, and is generally carried on by a clerk whose duties are to follow up all orders placed and to see that they are delivered on time. If delays in delivery are due to traffic conditions, the assistance of the traffic department is generally secured to straighten out the difficulty.
- d. **INSPECTING OF SHIPMENTS** and checking of invoices. As a general rule the actual physical inspection of shipments is done by some other department, but is reported to the purchasing department in order that it may have the necessary information to check the invoice received from the vendor.
- e. In some plants the stores are under the control of the purchasing department, but the more prevalent practice is to have the stores under the control of the production department.

The operation of the purchasing department and the policies which should govern its practices will be treated more fully in another article in this issue.

Purchasing Budget — Co-ordinating Purchasing with Sales and Production Programs

Perhaps the most critical phase of material control is the determining of quantities of each material to be bought from time to time. In some plants visited, the purchasing agent is a man who has almost unlimited authority to buy major commodities in as large quantities as he thinks best. Practically the only limitation on him is that he must consult the financial head before tying up unusually large sums of money for too great a length of time. While this method is working very satisfactorily in these plants, it is not one that can be followed by many organizations. The purchasing program should be carefully correlated with the sales and production program in order to avoid purchasing too much or too little. Furthermore, it is essential that when the general manufacturing program is laid out at the beginning of the year, there shall be developed a purchasing budget along the lines indicated in the March issue, *The Sales Manager's Number of THE MANUFACTURING CONFECTIONER*. This budget is necessarily synchronized with the sales plan and production schedules and is changed as adjustments are made in them in accordance with business conditions and sales demand. The purchasing department operating under such a plan has full latitude to buy any quantity within the limits of the budget. Furthermore, it is the duty of the purchasing agent to anticipate market changes, and if he believes that larger amounts should be purchased, he is expected to confer with the sales, production and financial departments, and if it seems wise to increase the volume of his purchases in accordance with the change of plans approved by the committee.

The actual operation of the methods suggested above is that the purchasing agent buys only in accordance with purchase orders sent him by the production department. When he believes that larger quantities should be bought than the production department has called for, he should "sell" his conviction to the superintendent and get another requisition.

As a safeguard against overinvestment in raw materials one firm requires that all purchases made by the purchasing department shall be O. K.'d by the treasurer or comptroller. This assists in tying in the expenditures for material with the plans of the financial department so that they will not be called upon for unexpected drafts upon unavailable funds, and gives them an opportunity to arrange for any accommodations that may be needed to take care of the investment.

This co-ordination of purchasing with production, sales and finances has many advantages. It gives a more balanced inventory, avoids overstocking on items beyond production needs, keeps down the amount of money tied up in

idle stocks and results in a quicker turnover of the capital invested. It need not hamper the exercise of good judgment on the part of the purchasing department, as it merely insures that all departments rather than one will participate in determining what quantities and qualities will be bought.

Three Phases of the Purchasing Program

There are three distinct phases to the planning and execution of the purchasing program. First, there is the long range yearly estimate of the materials which will be needed during the coming seasons. Contracts and purchases for future delivery are made on the basis of this estimate.

The second phase is purchases made in accordance with actual instructions received from the planning and production department. In plants where the production program is carefully laid out in advance, the planning department draws up a schedule of material needs at the same time that the production schedule is completed. After checking this list of materials required against the quantities available in the store room, and not previously apportioned, requisition for purchase is made out and sent to the purchasing department for any additional quantities needed, either to take care of production requirements or to bring stock up to the quantity which should be carried on hand.

By looking ahead in this manner and adjusting the purchasing program in accordance with production schedules there is seldom need for a rush purchase except in emergencies or unexpected demand for some particular type of goods. Where definite order points or minimum quantities carried on hand have been established many requisitions to purchase originate automatically with the balance-of-stores clerk. Whenever this clerk finds that the balance on hand or the unapportioned quantity on hand has reached the minimum or order point, he notifies the planning department and a new lot is ordered in immediately, unless this should occur at a season when stocks are being allowed to run down.

The third phase has to do with the immediate and emergency purchases which unfortunately occur in every plant. Regardless of the reasons for the emergency, all such orders pass through the hands of the planning or production department and receive their O. K. before going to the purchasing department. In handling such requisitions, the buyer should remember that it is frequently cheaper to pay a premium on goods that can be delivered immediately than it is to hold up production.

In the procurement of material in the better organized plants, the division of authority for ordering in supplies is about as follows: The purchasing agent is the executive responsible for the ordering in and securing of all supplies. He specifies and determines the sources from which the goods shall be secured and the prices that shall be paid. The manufacturing or

standards department establishes the specifications as to quality, grade, etc., upon which goods shall be purchased, while the production or planning department specifies the quantities to be purchased and the time when the goods must be delivered.

Receiving Shipments

After the purchasing department has performed its function and made sure that the goods bought will arrive on time, the next step in the material cycle is the receiving of the shipment. First comes the notice of the arrival of the goods at the freight yards or else their actual delivery at the plant. It is the receiving clerk's duty to see that freight shipments are secured promptly before storage charges begin and to sign for shipments delivered.

There should be just as accurate a check upon goods received as upon shipments going out, and some firms make it a rule that no incoming shipments shall leave the control of receiver until they have been inspected and the count or weight verified. This does not mean that all of the actual testing and inspecting has to be done in the receiving room. Goods may be sent to the laboratory or stores department, but the receiving clerk is responsible for them until the proper department has actually accepted them.

In practice the receiver is notified of all shipments expected and given the necessary instructions as to their disposition. As a general rule all incoming goods are delivered to the stores department unless there is a special reason why they should be sent direct to the department that is to use them. Even this should never be done except on instruction from the stores department and then the record of the shipment must be cleared through the books of the stores department.

Frequently the receiving department is a part of the stores division. Here all goods coming into the plant are examined and count or weight verified. In case of raw materials, samples are sent to the laboratory for inspection and analysis to determine whether they comply with the specification standard. Unless goods are of an established brand made by a dependable firm, it is desirable to always examine representative samples carefully. As one superintendent expressed himself: "Other firms make just as many mistakes as we do. No matter how long established or reliable a concern is, they have their difficulties, something happens and a poor lot is shipped out. For this reason we try to examine typical samples from each new shipment and analyze any lot about which there seems to be the least doubt." The reasons for this are obvious. Uniform manufacturing results can be secured only from materials of uniform quality and properties, consequently a test in time may save several spoiled batches.

Stores Department

There is no more important department in the candy plant than the stores department. It

receives and examines goods, stores them away under proper conditions, issues them to manufacturing departments as needed and keeps a careful account of the materials received, issued and on hand.

As indicated above, the first function of the stores department is to receive shipments. As soon as a shipment has been accepted the stores department notifies the purchasing department, giving count, weight, description and any other information that may be helpful in checking invoices. Special care is taken to report any shortages, arrival of goods in damaged condition or any other variation from specifications, so that claims can be made of the shipper or upon the railroads.

After acceptance goods must then be stored where they will not spoil or deteriorate, where they will be accessible but not in the way, and where they cannot be taken or wasted. This presents one of the most difficult phases of the material problem of the candy industry, because so many of the commodities used will spoil quickly unless kept under just the right conditions. It must be taken into consideration and planned for in laying out the factory. Many firms located in cities can use commercial warehouse for bulk storage, but even then the stores intended for current consumption must be cared for carefully.

There is always the question as to whether all material stores shall be centralized or whether the various items should be kept in the departments where they are needed. The advantages of central control and care must be balanced against immediate accessibility. The answer will vary with the physical layout of the plant and the commodity under consideration. In general, however, it seems to be better to have a central store room from which materials are issued to departments in accordance with requisitions made out in the production planning office. In the case of supplies used in small quantities or in less than original packages, a week's supply is issued at one time. An effort is made to anticipate the needs of a department sufficient so that it can be kept supplied without too frequent deliveries from the store room.

Sugar, of course, is delivered to rooms in such quantities as will make convenient-sized truck loads. The quantities of sugar delivered is charged to the department and then the department is credited with the amount called for on production requisitions. Any balance has to be accounted for by the department affected. If more is used than the production standards call for, the foreman must make explanation to the superintendent and secure an emergency requisition from him. Where the plant is spread out over a large area or where the material is used by only one department, sub-store rooms may be established nearby or material issued in the same way that sugar is handled.

This question of where to store various materials and how to issue it to departments is one

upon which there is considerable difference of opinion. The practice in many plants is quite different from the methods described above, but an increasing number of plants are adopting the policy of centralizing their stores as much as possible and of issuing material only upon requisitions made out by the production or planning department rather than by the foreman. This method has the advantage that practically every bit of material used is accounted for and that more material than is called for by the standard recipe cannot be used without the central production office knowing about it. Such accurate accounting methods not only act as a check upon waste, but they provide definite figures upon which costs can be computed.

Classification of Materials in Stores

For convenience in handling, materials are frequently classified into the following divisions:

- a. **RAW MATERIAL**, such as sugar, chocolate, nuts, butter, milk and flavoring, etc.
- b. **FACTORY SUPPLIES**, such as lubricants, repair parts, etc.
- c. **PACKING MATERIAL**—foil, ribbons, paper, boxes and shooks, etc.
- d. **TOOLS, UTENSILS AND EQUIPMENT**, such as trays, trucks, paddles, knives and measuring or marking devices, etc.
- e. **MATERIAL IN PROCESS**, prepared for use or semi-manufactured. Clean nuts and fruits, pulverized sugar, undipped centers.
- f. **FINISHED STOCK**—finished candy ready for packing or shipping which is stored away or held up for any reason.

The storing and handling of each of the above classes presents a different set of problems, and it is the general practice to provide separate store rooms for each class and to handle them separately. One development that has come into the industry recently is that of enlarging the function of the stores department to include the preparation of certain raw materials ready for use. Under this plan, the stores department sorts and cleans all nuts and fruits and performs any minor preparatory operations so that the material which is issued will be ready for immediate use.

In practice the rules for control, issuing and accounting are the same for all of the various types of materials. Material in process is, of course, not under control of the stores department, but is listed herein because many plants have found it desirable to work out definite control systems for keeping track of material in process as it passes from one department to another. A record is kept of all stock sent into a department, the quantities manufactured from it, and the amounts passed on to the next room. This record sometimes takes the form of a control chart, which shows not only the quantities in process, but indicates the time when various lots entered different departments and were passed on to the next operation. Such a chart has the advantage of showing at a glance just

how much candy is being made in different parts of the plant and how far the work has progressed.

The practice in regard to finished stock varies in different plants. In some, finished goods are under control of the manufacturing department, whereas in others they are charged to the sales department as soon as they are packed ready for shipment. The latter practice is growing in favor, especially in plants where the work of different departments are co-ordinated through a general program. As nothing is manufactured except in accordance with a program which has been approved by the sales department, the expense of carrying finished stock which is not shipped out on orders immediately is charged to the sales department, as they are responsible for moving it.

The Requisition System for Closer Control

As indicated previously, there is a tendency towards closer control of material issued. With the growth of production planning has come the appreciation that a large factor in this is scheduling the movement of material from the store room through the different productive processes to insure the having on hand and delivery to each department of the exact quantity and quality of material in the proper condition for use as needed. While the material or work in process must arrive in the department on time, it should not arrive too much ahead of time unless the department has ample surplus storage space. For this reason the prevalent practice of delivering material to departments without requisition or on order of the foreman is being given up in favor of the more exact one of having all requisitions made out by the production clerk at the same time that work orders are issued. This is really a part of the scheduling process and results in a closer control over the movement of materials and stock in process from place to place. Furthermore, this gives a more accurate check on materials used.

Movement and Handling of Material

Under this method the stores department knows in advance each day just what material is to be issued and can plan its work to advantage. As material is laid out for issue it should be provided with an identification tag specifying work for which it is intended and the time and place of delivery. It is then turned over to men charged with the movement of stock. Attempts have been made to centralize the movement of materials under one department, as has been done in other industries, but it seems more feasible to have men reporting direct to each foreman who is responsible for getting the stock into the next department.

One cannot study the subject of moving material in a candy plant without being impressed with the enormous strides that have been made in the development of conveying machinery. From the point where sugar and syrups are

(Continued on page 30)



Customs of the Raw Material Trades and their Relation to the Candy Industry

The Seventh of a Series of Articles on Purchasing Confectioners Supplies

By Albert Adams Lund

Mr. Lund is purchasing agent with one of the foremost manufacturing confectioners in America. This series will cover the various phases of the everyday interests and problems of the buyer of candy factory supplies. Comments and open discussions from other buyers are invited, as well as suggestions of topics which would be of special timely interest to any of our subscribers—Editor.

WHEN any group of people habitually buy, sell or put up their goods in a certain fashion, dealing according to some accepted or prearranged standard of weight, measure, quality or terms, these standards gradually evolve into trade customs. Such customs are the supposedly understood but frequently misunderstood details upon which business is based. Without them, business on a large scale would be about as hopeless as an attempt to cross the Atlantic in a rowboat. The simplest telephone order, "1,000 barrels of assorted sugars, August delivery, at 7.50" would require hours of painstaking effort to consummate; the size of the barrels, the tare, the basis, the latitude allowable in the assortment, and the respective grade differentials, these and a great many other implied terms would have to be threshed out and decided upon before such a transaction could be closed. To these seldom-discussed customs we owe the incredible swiftness with which business may be done today.

Often the knowledge that a certain custom exists and applies specifically to some problem in hand, plays an important part in enabling us to realize the full measure of advantage accruing to us in the transaction. We are enabled to anticipate and discharge with a minimum of inconvenience the great number of obligations which might otherwise embarrass us at some awkward or unexpected moment. It follows that much of the uncertainty and friction which normally enters into the conduct of our purchases may be done away with if we but know the simple and fundamental relationships which these various customs impose.

Trade Customs Classified

Roughly speaking, trade customs may be classified according to the phase of the contract which they interpret. The first group will embrace those standards and trade usages which pertain to the quantity or unit of purchase; the second will include customs relating to the

quality of the merchandise; and the third, the terms and conditions upon which the bargain is concluded.

In the first category comes much that is of interest to the careful buyer of raw material; how to remember and classify common package weights; the ways in which invoice weights are actually and arbitrarily established; the customary methods of computing tare and the evolution of the tare allowance; these, as well as a great many other cost-influencing factors such as shrinkage, soakage and the like, will be discussed in the following pages.

A certain close merchant was questioned one day on the necessity of package weights figured to the pound. And this was his reply: "When the market goes up, I should get all that is coming to me; when the market goes down, I shouldn't get more than is coming to me; and anyway, why shouldn't I know where I'm at?" He had emphasized three reasons why a non-descript package weight would not do.

Gum Arabic, Pignolias and Cherries, for Instance

A few examples will serve to illustrate that this tendency to alter the package weight to suit changing market conditions, is not confined to any one source or type of shipper. For a number of years a certain New York supply house had been buying gum arabic from a reputable firm of Hebrew merchants. This particular year they had contracted for a large forward consignment, the bulk of which they resold to their customers here prior to arrival. It was the custom to ship this commodity in 320 lb. bales and the fact was so well understood that it was not considered necessary to mention it specifically in the confirmations of the import sale. During the period which intervened between the placing of the contract and shipment from the Sudan, the business of the shipper fell into the hands of Greeks. Meantime, the price of gum had been rising steadily. The contracts were executed bag for bag but instead of the customary 320 lb. con-

tents, the supply house received bales of 220 lbs. On the protest of their customers, who had purchased 320 lb. bags, this firm made good the difference at the advanced price. But the shipper sought refuge in pretended ignorance of the trade custom and the supply house received no redress. (Since this incident, the Sudan shippers have again changed the package weight, which is now on English basis, 2 cwt. or 224 lbs.)

Another instance which comes to mind is the variation of the Italian package weight for pignolias. For a long time the shippers adhered to a standard of 75 kilos or 165 lbs. but more recently, as one importer put it, the weight of the case has been an index to the price of the nuts. The unit has varied over a range of thirty to thirty-five pounds.

Nor is the temptation to tamper with the standard confined to foreign shippers. Only within the last few years one of the best known cherry packers in this country were found to have deliberately purchased under-size barrels to fulfill contracts on a rising market. Custom demanded barrels of 50 gallons net while the substitute barrels held 45-46 gallons, ten per cent short of the standard unit.

For a confectioner purchasing a seasonable article of which he requires a specific quantity for a run, the need of an exact poundage is still more evident. If he does not secure a sufficient quantity on his initial purchase, he is often obliged to pay a premium for the small amount needed to complete the run. On the other hand, if he gets more than he bargained for, he may be obliged to hold it over until the following season.

Variables in the Package Unit

This problem is one that has thrown off many a purchase designed to fill the gap in the season's requirements, the amount of which is automatically determined by the extent of the previous contracts. Obviously there are but two courses open. One is to purchase our entire requirements in so many pounds or gallons (a practice which is often neither customary nor feasible); the other is to specify the exact package unit at the time of purchase.

Several of the supply houses have sought to

capitalize on the fact that the average buyer will purchase so many bags of almonds or filberts irrespective of apparently minor variations in the package weights, by instructing their foreign shippers to put up their goods for them in oversize cases and bags which in all other respects resemble the customary package. One firm in particular have all of their almonds and filberts put up in bales of 250 instead of 220 lbs. What this amounts to is that if the customer figures his requirements on the basis of 220 lbs. to the bale, as most of us do, for every 15 bales he orders the supplier will actually ship him a quantity which is 2 ordinary bales in excess of his requirements. Which may be a great scheme for the supplier to increase his sales but it plays Old Harry with our figures.

If we adopt the practice of showing the package weight on our order we must be able to identify the proper unit when it is quoted, or lacking a specific quotation of weight, be able to determine it readily. To do this we must know something of the origin and classification of package weights.

Origin of the System of Foreign Package Weights

With a few exceptions, the majority of the raw materials employed by the confectioner are packed according to one of two weight systems, the metric and the British Imperial. These are the two foremost systems in use today. The metric or French system has been adopted for common use by every civilized country in the world with the exception of England and her dependencies, and the United States.

Great Britain still adheres rigidly to the Imperial while this country employs a system which is part decimal and part Imperial, a sort of mongrel English.

Notwithstanding the general recognition of the metric system, the old local and ancient weights still prevail in the more backward or loosely-governed localities. Consequently we find local units in use in Russia, Turkey, Greece, Portugal, Denmark, and Southern Italy, in some instances side by side with the metric. Likewise, South America, Central America and the Orient employ metric, subject to the same gen-

To the Buyer of Raw Materials

DO YOU KNOW—

THAT the basis of the American "pound" is the metric "kilo"?

THAT the United States, Great Britain and her dependencies are the only civilized countries in the world that have not officially designated the metric system for common use?

THAT Spain and Italy both use British and metric weight side by side in packing goods for export?

THAT French Flot almonds are never packed 28 lbs. per box although frequently billed as such?

THAT three different weight standards come into conflict in the 28 lb. box?

These and other interesting facts regarding shipping package weights and customs of the suppliers of raw materials are discussed by Mr. Lund in the accompanying article.

eralizations regarding local standards. Japan, for instance, retains the form and terminology of her old system but has transferred its basis bodily to metric. Tables of English, metric and American weights follow:

METRIC SYSTEM*

1000 grams	= 1 kilogram, or kilo.....(2.2046 lbs.)
100 kilos	= 1 quintal(220.46 lbs.)
1000 kilos	= 1 ton(2204.62 lbs.)

IMPERIAL SYSTEM.

16 ounces (avoir.)	= 1 pound (lb.).
28 pounds	= 1 quarter.
4 quarters	= 1 hundredweight (cwt.), (112 lbs.).
20 hundredweight	= 1 ton (long), [†] (2240 lbs.).

(ALSO)

14 pounds	= 1 stone.
4 stones	= 1 bushel(56 lbs.).
8 stones	= 1 hundredweight(112 lbs.).
160 stones	= 1 ton (long)(2240 lbs.).

AMERICAN SYSTEM.

16 ounces (avoir.)	= 1 pound (lb.).
100 pounds	= 1 hundredweight (short), (cwt.).
20 hundredweight	= 1 ton (short)(2000 lbs.).

*The basis of weight in the metric system is the unit of mass (the mass of one cubic centimeter of water equals the weight of one gram). In the Imperial System, the basis of weight is the unit of force (a body having a mass such that the force of the earth's gravity exerts upon it a pull of one pound, is said to weigh one pound). Obviously, this system is subject to variations in altitude and latitude. The same was true of American weights until 1893, when Congress defined the pound as $\frac{1}{2.204622}$ kilogram, and thus automatically transferred the whole system of American weights to metric basis while still retaining the form of the English system.

[†]Used in the United States for coal and minerals only.

It follows that the greater portion of the materials we buy will be packed in units of the metric system (witness the great bulk of our nutmeats, fruit pulps, preserved fruits and the like, which come from European countries employing the metric system). And since the Imperial system is based on the same unit as our own, namely, the pound, the only major difficulty we may expect to encounter in remembering or classifying package weights is with the reasonably small number of items like dates and cocoas, where strictly local units apply. For the present we shall confine our discussion to the application of the two major systems to the produce we buy, and to the various equivalents which are used to interpret these systems in terms of the American system with which we are familiar. The table on the opposite page shows their application to a number of common raw materials.

It will be noted that the package weight in one system is often within a fraction of a pound of a corresponding package weight in another, and it is here that confusion must be avoided. Observe particularly the proximity of the following metric and Imperial equivalents:

Metric	Imperial
27.5	28
55	56
110	112
220	224
330	336

Danger of Confusion in Shelled Nutmeats

In the case of one of the commonest of our raw materials, shelled nutmeats, the danger of confusion is still further aggravated by the fact that both Spain and Italy will pack their product in either system according to the desire of the purchaser. If he offers to pay in sterling they quote by the box (quarter) or hundredweight. On the other hand, if he pays in dollars he is usually quoted by the hundred kilos.

It is almost an invariable rule, however, that boxed almonds shipped from these countries to the United States are sold in British quarters of 28 lbs. It goes without saying that the Imperial unit is never employed in France and that French almonds will consequently be shipped in 27.5, 55, or 220 lb. packages, the domestic equivalent of 12.50, 25 and 100 kilos respectively. But the fact that the accepted weight for Spanish and Italian almonds in boxes is 28 lbs. does not prevent an occasional error in stenciling or the substitution of metric goods which were destined for home use or some other countries where metric packages were desired. Furthermore, a mistake of this nature might be difficult to verify in view of the established custom of allowing one per cent for "shrinkage," a term which is variously interpreted to mean almost anything.

Certain small sizes of almonds such as 2 and 3 crown Jordans are packed 25 lbs. to the box, presumably because the greater bulk of the small size almond prevents a larger quantity from being put into a standard 28 lb. box. Imagine, then, the plight of the Spanish shipper breaking in a "green" weigher. Between his

- 25 lb. boxes (for small almonds).
- 27.55 lb. boxes (the metric 12½ kilos, compulsory for use in Spain and neighboring counties).
- 27.65 lb. boxes (Spanish 25 libra, the local weight still employed by the uneducated classes).
- 28.00 lb. boxes (British quarter, the customary weight for the majority of export shipments),

is it any wonder that 28 lb. boxes weigh anything but 28 lbs.?

As a general rule, bales of almonds and filberts are put up in metric units of 100 kilos (220 lbs.) but the exceptions are sufficiently numerous to demonstrate the need of specification. Naples filberts, for instance, are packed 110 or 112 lb. bags or barrels; small, broken or twin Spanish almonds in 112 and 224 lb. bags and boxes or 336 lb. casks.

What is true of these is true of a large majority of European package weights. Where local standards have prevailed, as in Turkey and Greece, the merchants in those countries have gradually affected metric and British standards in order to compete with their more progressive neighbors, with the result that Turkish pistachios come packed in 1 cwt. cases and Turkish and Greek figs in 2, 5 and 10 kilo boxes, etc.

Discrepancies in Converting Metric to Pounds

But bad as the situation is for lack of a uni-

COMPARISON OF THE METRIC AND IMPERIAL PACKAGE WEIGHTS WITH THEIR AMERICAN EQUIVALENTS.

METRIC PACKAGE WEIGHTS (Kilos)	AMERICAN CONVERSION EQUIVALENTS (lbs.)*		IMPERIAL PACKAGE WEIGHTS (lbs.)	REPRESENTATIVE MATERIALS
	ACTUAL	CUSTOMARY		
1	2.20			Figs (Turkish, Greek, Spanish, etc.).
2	4.41	5		Figs (Turkish, Greek, Spanish, etc.).
(2.27-)	5			French glacé fruit (American pack), No. 3.
3	6.61	7		French glacé cherries, No. 1, fruits, etc.
3.75	8.25			French glacé Bigareaux cherries.
	10			Domestic fruits, canned and dried, etc.
5	11.02	11		Apricot and other pulps; Symrna boxed figs, et al.
10	22.04	22 or 25		Figs, raisins, etc.
	25			2 and 3 Crown Jordan almonds; domestic dried fruits, and glacé, etc.
12.50	27.55	28		French almonds; Algerian figs, etc.
	28		1 quarter	Spanish and Italian almonds in boxes (see also 27.55).
15	33.07	30 or 33		Symrna box and bag figs; Portuguese tapnet figs.
	50			Domestic evaporated apples, almond paste; Greek currants, etc.
25	55.12	55		French walnuts and almonds; Algerian figs, broken citron.
	56		2 quarters	Bulk Italian citron, etc.
	100			Refined sugar; Canadian maple sugar in bags; domestic peanuts, etc.
50	110.23	110		} Spanish, Italian and Turkish nutmeats, shelled and unshelled.
	112		1 cwt.	
60	132.28			Portuguese figs (4 serons of 1 arroba, or 15 kilos each).
	150			Domestic shelled nuts (Brazils, pecans, etc.).
75	165.35	165		Italian pignolias.
	200			Domestic shelled nuts; other products, such as gelatines, etc.
100	220.46	220		} Spanish & Italian nutmeats in cases or bales
	224		2 cwt.	
	225			Domestic shelled nuts, etc.; cocoa powders.
	250			Domestic shelled nuts; special packed imported almonds and filberts.
150	330.69	330		} Italian cherries in brine.
	336		3 cwt.	
				Small Spanish almonds, etc.

*Bold figures represent domestic package weights.

fied standard, the common use of a number of incorrect equivalents for converting metric to pounds does a great deal more to complicate matters than the obvious points at which the two systems actually conflict.

Possibly by reason of the widespread adoption of the British quarter as the standard of weight for items like boxed almonds, the box that is actually made to hold 12.50 kilos or 27.5 lbs. is regarded as a 28 lb. box notwithstanding. Suppose we peruse the current list of one of the big importers. We find:

	Packers' Weight.
French flat almonds, extra large.....	28 or 55 lbs.
Whole blanched almonds	28 or 55 lbs.
Blanched filberts	28 or 55 lbs.
Algerian figs	28 or 55 lbs.

About the first and last items there can be no doubt. France and her provinces never put up a 28 lb. box, and since the smaller cases are exactly half the size of the larger, the inference

to be drawn is that the small boxes contain 12½ kilos or 27½ lbs. net. Items two and three are likewise inconsistent and unless the goods are domestic packed in surplus foreign cases (which is not likely) the probability is that these, too, are 27½ lb. cases. Of course, 12.50 kilos lacks a half-pound or almost 2 per cent of being 28 lbs., however, the shipper says, "no matter, the goods are sold net shipping weights," which means you pay for 28 lbs. whether you get it or not. With almonds at 50c a pound (and French almonds often bring a great deal more than that) the overcharge on 100 boxes amounts to \$25.00; but if you should voice protest and demand domestic reweights you would at once be regarded as one who is either ignorant of the trade custom, or just plainly trying to "put one over." You are expected to know that all losses or shortweights of whatever nature fall under the general category of natural shrinkage. (Continued on page 51)

Relation Between Purchasing and Production Dept's

As Seen by a Production Man

THIS is the Purchasing Number and in its honor the editor has asked me, a production man, to bury the hatchet and say something nice about purchasing men as a class.

A few years ago this would have been beyond my comprehension. I should have had to tell him I was no humorist, but since the last member of the clan with whom I was associated saved money by buying Coast Jordans to fill my requisition for Beven Horse Jordans, I have left the producing end of the game and joined the salesmen who toil not, neither do they spin, but still seem to have more than one suit. It has been a liberal education in the proper appreciation of purchasing agents.

Confidence and Co-operation Necessary

Unfortunately, friction and even open hostility often exist between the purchasing and manufacturing departments, to the detriment of the successful operation of either or both. The fault is sometimes all on one side, but just as often all on the other. Generally it is a total absence of confidence and co-operation for which both are to blame.

The purchasing agent is in his office to save money on the purchasing and keep an uninterrupted supply of materials ready to forestall the factory's demands. It's a man's job. The superintendent or production manager holds down his job on the strength of his ability to produce satisfactory goods at a price which will allow of a profit. The raw materials which will permit of his accomplishing these two ends most readily may not recommend themselves to the purchasing agent as the most advantageous buy. In fact they may not be, from his angle.

For Instance, Sugar

Sugar is a constant bone of contention. One make most favorably known to the factory because of its greater uniformity may be a few cents above other grades or brands, and the purchasing agent buys the cheaper. From long experience with his production chief, he knows that the man is good enough to use any half way decent sugar and get away with it. That is good business for the buyer only. The production man knows that when he uses that weak sugar he must reduce the quantity of corn syrup and so raise the material cost. He also endangers the life of the goods. Naturally, as this reflects on his department and probably gets him in a jam with the cost department, he resents the deal, but the sugar is on the floor and the purchasing agent scores a technical victory.

The victory actually costs the company money. It is hard for a man brought up at a desk to believe that two sugars of the same grade and each complying with the government standard will differ in behavior in the kettle. Besides, the buyer perhaps showed samples of the sugar from upstairs to the superintendent, each in a separate bottle, and he didn't recognize that it was any different than what he was using right along. But fortunately there are many purchasing agents who realize their limitations and benefit by the experience and specialized knowledge of others. This is one side of the story.

Then there is the production manager who can use only one brand of each thing he requires and can tell "blindfolded" if anyone tries to run in anything else on him. He has used these same brands for five, ten, fifteen years and isn't going to monkey with any others. Well, maybe five, ten, fifteen years ago he was right about it, just as he was right then in saying that a flying machine was unsafe and impractical, but that is a very poor excuse for refusing to allow anything else to be tried today. In fact, it is a dead certain bet that about the only thing that has not been improved in that length of time is the candy he makes. If the houses he bought from that long ago had not improved their product they would be off the stage today. Nevertheless, this production man or candy maker must have the same thing he always had, even if they have to make it especially to avoid offending an old and valued customer.

I know of one case where a man of this type insisted on a certain high-priced brand of flavoring ingredient and swore to me that he could pick it from any other brand on the market by its odor alone. I could have misbranded a sample and fooled him, but this would only have lost me his confidence, so I took him to an extract factory, to which I fortunately had an entrée. Without saying anything about it, I let him see them bottling his favorite flavor under his special brand, and at the same time and from the same still that kind which he had refused to use. That cured him of being so partial to that particular flavor, but not on all his old standbys. From my knowledge of the man, I presume they still stand peerless and unchallenged in his eyes.

This is in no way to be interpreted as a recommendation to buyers and users to desert old sources of supply for new. It is an appeal to reason and common sense in being at least open-minded.

If you only try one thing how do you know it is the best?

A common answer is, "It is entirely suited to my needs and that is all I require." No man can truthfully say even that unless he has tried all kinds to be had. I don't believe in *changing* constantly but I do believe in *trying* constantly if I want to keep abreast of the changing times and conditions and be the early bird that catches the new improvements and better values as they come out.

It is also unfair to those old sources of supply to keep right on praising their goods and using them in ignorance of how they compare with the standards of the day. They may well be deceived into saying "It suits W. G. & Co. and they know better than anyone else what is needed for the line they specialize in."

Keep the Production Department Posted

This fault applies to the purchasing and manufacturing departments equally. I know of several buyers who refuse to interview representatives of firms they are not already dealing with. They are generally of the rubber stamp type and in that case it is not their fault. Their instructions are to fill out purchase requisitions with certain names at the top; they do so and are probably satisfied with the honor of their title as their principal emolument. I cannot conceive of an employer so short sighted as to pay the salary of a real purchasing agent to a man who sees only one or two representatives of each line of goods he must buy. As I understand it the man is there to keep in touch with the market and changing conditions in every line allied to his. To do this thoroughly and intelligently a large concern certainly requires all the time of one man of no mean ability and necessitates his seeing the representative of any reputable house which feels that it can afford the time of its representative to present its case. If they had no legitimate business they would not waste their time.

Now as to the production man. He is necessarily rather restricted by his other activities. He cannot nor is it his place to interview every salesman who sends him his card; he must depend on the purchasing agent to keep him posted on changes and developments which take place in the industry. That is, he should be able and willing to place this dependence and it should be respected. He should know that anything which shows the least chance of improving his product or lowering the cost of its manufacture will be carefully run down and a report of the findings made to him. He cannot be expected to know what is new in the field in any other way and without this information must of necessity become stale and antiquated in his methods. It is a sad thing to see an otherwise good production man working along in the dark and back five years in his methods because he is sure "that impractical clerk" in the purchasing department can't tell him any-

thing about candy making or the needs of the factory. The two men were trained for different work and all too often entirely independent of one another. It is not uncommon to find in the training of each a feeling of contempt for the other.

Three human elements enter into the transactions between these departments of an industry and each fits his niche. The salesman sees the purchasing agent and in accordance with the time honored custom of his calling tells of the wonders of the commodity he is trying to sell. Unfortunately he tells a lot of things that in private life he would not feel compelled to endorse. He must make a sale.

The P. A. must be prepared to discount his story accurately in relation to the man's true and evident sincerity and decide whether the remainder warrants serious attention. He is generally not a technical man and therefore may blunder but there is where the production man comes in. If a proper bond of mutual confidence has been established between the two departments the matter will be talked over and intelligently handled. Points in the salesman's story which meant nothing to the P. A. will doubtless convey strong meaning to the practical man which he can and should make clear. In his turn the P. A. can call attention to conditions in the market and reputation of the firm offering the commodity which will equalize or offset the apparent advantages. Together they can quickly get to the true value of any proposition.

Right here is a good time to state the purpose of this article which is to serve both parties by showing their relation as seen by many production men. There should be co-operation, not intolerance, between the two departments. Neither can do its work intelligently nor efficiently without the help of the other. It is the easiest thing in the world for either side to make irreparable damage for the other and then prove an alibi. It is seldom that either man could do the work of the other and not make a hopeless mess of it but too often each is absolutely certain he could.

As a production man I should like this order of things to prevail. A purchasing agent who did not presuppose me to be a hopeless and ignorant d— fool and who did not inspire me with the same feeling toward him (I know many now to whom I could adjust my ways without friction) one who would tell me of anything interesting that came into his office during the day regardless of whether it struck him as helpful or not and who would advise me voluntarily of any radical changes in the prices of the things used in the factory. Above all a man who ordered what I put on my requisitions and credited me, without fighting, with enough intelligence to understand why it was not good business to buy that particular thing at that time and with open-mindedness enough for him

(Continued on page 30)

RELATION BETWEEN PURCHASING AND PRODUCT DEPARTMENTS

(Continued from page 29)

to realize that I would agree to the substitution of something else where it was possible consistent with the production standards to maintain.

What a glorious condition that would be and in return I would make clear to him why I couldn't use corn starch instead of corn meal, peanuts instead of cocoa beans and all the rest of those dark secrets we production men keep hidden in our formula books. In a word I'd try to talk and act toward him as toward a HUMAN BEING!

This article may not be as it should for the purpose intended but it is submitted in the spirit of effecting a right attitude and relationship between the buyers and the practical men and both in turn with the supply trade.

CHAS. L. BIRD VISITS EUROPE

Mr. Charles L. Bird, Secretary New England Manufacturing Confectioners' Ass'n, has just returned from a trip to England and France. He reports that in many cases the candy situation in these countries is similar to the situation in the United States, as there are apparently more candy stores and more candy factories than are warranted by the present consumption. The majority of the candy stores are small shops, selling nothing else but confectionery. They handle primarily chocolates, hard candies and such specialties as MacIntosh's Toffee. Of the latter variety, it is the boast of the manufacturer that there are seven millions of people eating toffee every day. Mr. Bird did not see many American brands while abroad, except in the case of one or two concerns that have their own branch stores or have established agencies.

A majority of the goods sold are sold in bulk. Many retail sales are in quarter pound lots. Window display cards give the price on quarter pounds rather than on pounds, or in 5 or 10-cent units, which are so popular here. Prices do not vary greatly from those in this country. Popular brands are sold for approximately sixty cents a pound, while the better grades range up to four and five shillings per pound. Bulk goods for the dealer are put up in four and seven pound packages instead of the prevailing five pounds, which is the custom in this country.

Distribution to the retailers is largely through small jobbers, corresponding to wagon men in this country, who are supplied direct from the factory or through larger distributors. The English taste for candy is somewhat different from that in this country. Pieces are not so highly finished as American goods. Centers are dry and rather grainy and there is less variety than we have here. English manufacturers, according to Mr. Bird, are known to make unusually fine coatings. The chocolate coverings are very smooth and well blended.

In England the candy stores deal exclusively in candy, and although the sale of soda and ice cream is growing both in London and Paris, the confectionery stores have not taken up the combination. Mr. Bird found that the French were making a very fine solid chocolate candy, but apparently manufacture few cream centers. In England, Roundtree, Cadbury and Fry are the three leading advertisers in the confectionery field. Their names are seen everywhere.

Mr. Bird says that the English and European dealers and manufacturers are trying to increase their sales of fancy packages. They have not developed this line of the business to a very great extent, however.

The thing which impressed Mr. Bird most strongly in regard to the candy trade was the way in which business failures were investigated. When a dealer fails, he is put through a very severe grilling and the entire affair is treated as a very serious matter. The English manufacturers are very keen to appreciate the strategic position of the retailer who is the unit in their outlet of distribution to the consumer.

MATERIAL CONTROL

(Continued from page 23)

dumped into bins on the top floor and delivered to central distributing points or direct to larger machines by gravity chutes, to the final operation of packing candy on moving belts, there is really little need for the handling by hand of any of the more bulky materials. The moving of materials through the factory should be planned carefully. Recently one firm took a floor plan of their entire factory and then with the aid of different colored string and pins traced the flow of material from beginning to end. The effect was astonishing. The tangled design showed up clearly the weak spots, and as a result the layout and arrangement of nearly every room was changed. Now materials flow through that plant in orderly sequence almost entirely by automatic conveyors and production has been speeded up, although the cost of handling material has been reduced.

Editor's Note: In the foregoing article Mr. Wells has endeavored to set forth some of the more advanced ideas on material control. Although many of the plants visited are using more orthodox methods which are prevalent in the majority of candy plants, the writer believes that the readers are more interested in knowing about recent developments than they are in seeing a description of methods which are in accord with their own. No attempt has been made to go into great detail or to report all of the refinements, many of which are applicable only to the very large or highly organized plant. Elsewhere in this issue will be found a fuller discussion of certain specific phases of material purchasing, accounting and handling.

Robert C. Ogden, a distinguished Philadelphian, had for his five rules of success: (1) Keep faith in humanity; (2) A man becomes what he desires to be; (3) Do not mistake a prejudice for a principle; (4) Be energetic, wide awake and pushing, but be silent; (5) The world wants men who are well equipped and worthy.

Policeman:—"You're under arrest."

Cross-eyed Bimbo:—"What for?"

Policeman:—"You look crooked."

The cost of living doesn't seem to have much effect on its popularity.

There is a limit to everything except the progeny of one unswatted fly.—*Evening Telegram*.

1923

dealers
les of
ine of

gly in
siness
he is
affair
manu-
posi-
of dis-

vered
arger
pera-
ere is
nd of
oving
d be
ok a
with
pins
ng to
ngled
nd as
early
flow
lmost
uction
han-

le Mr.
of the
l. Al-
; more
ne ma-
nat the
about
eing a
d with
go into
ments,
e very
ere in
of cer-
hasing,

n, had
in hu-
to be;
4) Be
; (5)
d and

effect

eny of

With the Manufacturers of Machinery and Factory Equipment

*(This is the Candy Equipment Insert)
Kindly mention this insert when writing the
advertisers in this section.*

The following manufacturers of candy and chocolate machinery and factory equipment invite the special attention and consideration of candy factory executives to their respective sales messages presented in the advertising pages of this issue:

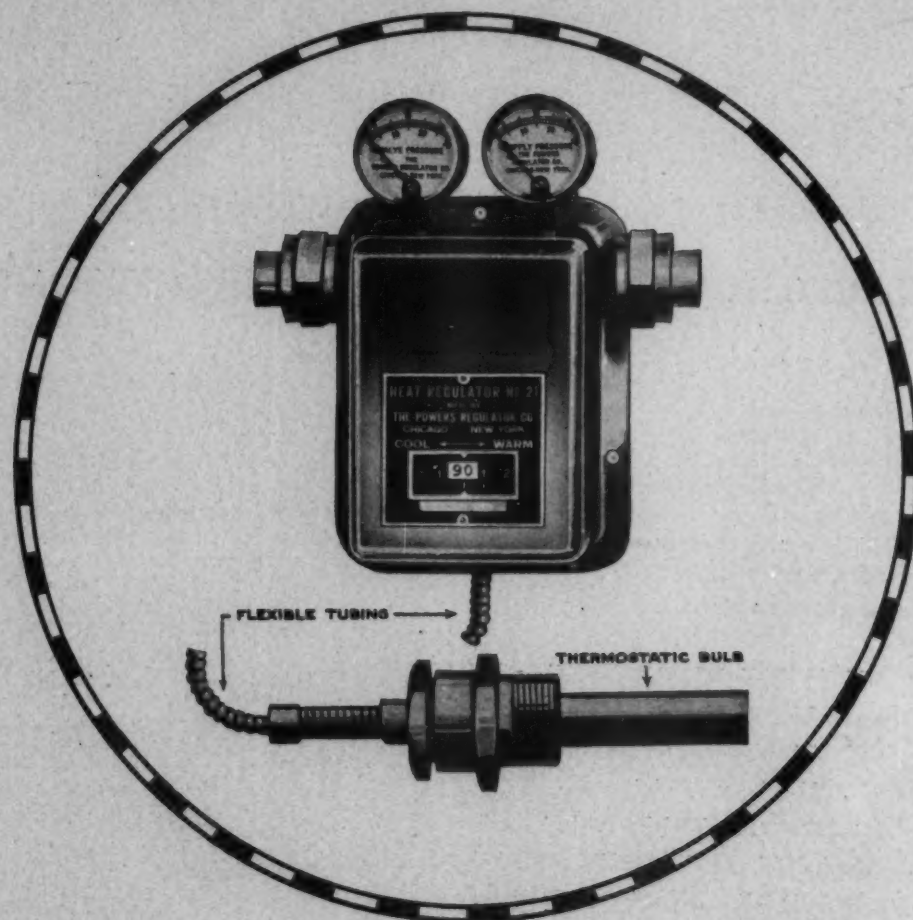
BENTZ ENGINEERING CORPORATION.....	42
CARVER, FRED S.....	41
EPPELSHEIMER & COMPANY.....	64
FERGUSON & HAAS, INC.....	40
MILLS & BROTHER, INC., THOS.....	39
NATIONAL EQUIPMENT COMPANY.....	36-37
SAVAGE BROTHERS COMPANY.....	35
STURTEVANT COMPANY, B. F., W. L. FLEISHER & CO.....	34
VACUUM CANDY MACHINERY CO.....	38

To the best of our knowledge the products advertised in THE MANUFACTURING CONFECTIONER have sufficient merit to warrant the serious consideration of our readers: we will appreciate any information to the contrary. We stand willing and ready to assist our subscribers in any possible and reasonable way in connecting with reliable sources of supply or in obtaining redress in any unfair or unsatisfactory transaction with our advertisers, though we assume no obligation in accepting the advertising.

Therefore, when all other things are equal, kindly give preference to the advertisers in THE MANUFACTURING CONFECTIONER. If you do not find just the item of equipment or supplies you are looking for, remember you have free access to our Buyers' Directory files.

THE MANUFACTURING CONFECTIONER PUB. CO.

30 North La Salle Street, Chicago



THIS Regulator accurately controls the temperature of chocolate in Enrobers, Melting and Mixing Kettles, Tempering and Depositing Machines.

Because of its super-sensitive thermostat and its correct principle of operation it accurately maintains chocolate at a steady uniform temperature which never varies more than 1 degree above or below the

temperature you set it for. It may be adjusted for different temperatures as desired, is easily installed and will earn its cost many times each year. Fully described in Bulletin 147. May we send you a copy?

Drying Rooms, Cold Rooms, Enrober Rooms, and Cocoa Bolters can be accurately maintained at a steady uniform temperature by using the thermostat shown to the right. This is a precision instrument of great durability and is widely used where accurate atmospheric temperatures are desired. May we send you a copy of Bulletin 150 which describes its operation?



It Costs You Nothing

to KNOW just how many hundreds, perhaps thousands of dollars you can save each year with Automatic Temperature Control applied to your Enrobers, Kettles, Tempering and Depositing Machines.

Make This 30 Day Test Free

Without cost or obligation you can put a Powers Regulator to work on one of your chocolate Enrobers and Kettles for 30 days. Check up on its performance. If you are convinced that it will be a mighty good investment for your firm, pay us for it, if not return it.

WHAT USERS SAY

Gets Chocolate Coatings Without a Flaw

"Before equipping our Enrobers and Mixing Kettles with your automatic temperature regulators about 3 per cent of our annual enrober output was off color and had to be run over again. Your regulators stop these delays, waste of chocolate, and enrober man's time, and we now get uniform coatings of an excellent, glossy finish. The chief value of your regulator is to lighten the work of the operator. It is a more accurate and obedient helper than a human helper."

Saves Chocolate

"..... the centers often picked up too much chocolate when the chocolate in our enrobers got too cold

which made the coatings too thick. Your system of temperature control eliminates this waste of chocolate and gives us coatings of uniform thickness."

Speeds Up Production

One concern reports that with Powers Regulators on its enrobers and mixing kettles it is able to turn out in four or five days what formerly required a full week's run. Another firm reports that they now turn out $2\frac{1}{2}$ tons of chocolate coated cookies a day against $1\frac{1}{2}$ tons without Powers automatic temperature control.

Why Powers Regulators Succeed Where Others Fail

Several attempts to control the temperature of chocolate in enrobers have been made in the past and proved unsuccessful because "positive, snap action control" was used. This always fails where a close range of temperature is required. A Powers Regulator because of its super-sensitive thermostat and its "gradual control" of steam and cold water valves accurately holds the temperature within a range of 1° above or below the temperature desired.

May we send you further information and prices?

THE POWERS REGULATOR CO.
Specialists in Automatic Heat Control

2796 Greenview Avenue
Offices in 31 Principal Cities

Our staff of engineers and more than 30 years of Specialization in Automatic Temperature Control are at your service without cost or obligation

The Powers Regulator Co.,
2796 Greenview Avenue, Chicago

Gentlemen: Let me have without obligation further information and prices for accurate temperature control on the equipment checked below.

- ☐ Chocolate Enrober
- ☐ Mixing Kettle
- ☐ Melting Kettle
- ☐ Tempering Machine
- ☐ Depositing Machine
- ☐ Drying Room
- ☐ Cold Room
- ☐ Enrober Room
- ☐ Cocoa Bolter
- ☐ Cooking Vats

Name.....

Firm.....

Address

CAN YOU RUN AT NORMAL PRODUCTION EVERY DAY?

More and more candy factories are finding that constant weather conditions in their plants are a paying proposition. That this knowledge is spreading is proved by the increasing number of orders which are being placed for

Sturtevant Fleisher Equipments

Knowledge of what is needed in this industry forms the basis for the design of these practically standardized units; each new installation confirms the fact that with weather changes eliminated, the candy is uniformly better and the processes are ideally standardized.

STURTEVANT FLEISHER Systems "Deliver the Goods"



In conjunction with

W. L. FLEISHER & CO., Inc.

31 Union Square West
NEW YORK, N. Y.

STURTEVANT DIVISIONAL FACTORIES

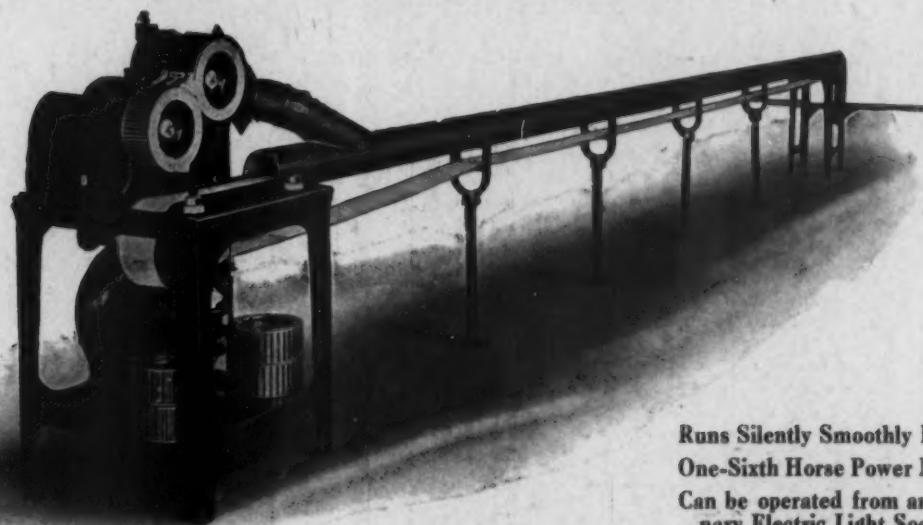
Corliss, Wis. Berkeley, Cal. Galt, Ontario

STURTEVANT SALES OFFICES

Atlanta	Hartford	Rochester
Boston	Indianapolis	Springfield
Buffalo	Kansas City	St. Louis
Chicago	Los Angeles	Salt Lake City
Cincinnati	Minneapolis	San Francisco
Cleveland	New York	Seattle
Dallas	Philadelphia	Washington
Denver	Pittsburgh	
Detroit	Portland	

The YORK CONTINUOUS CANDY CUTTER

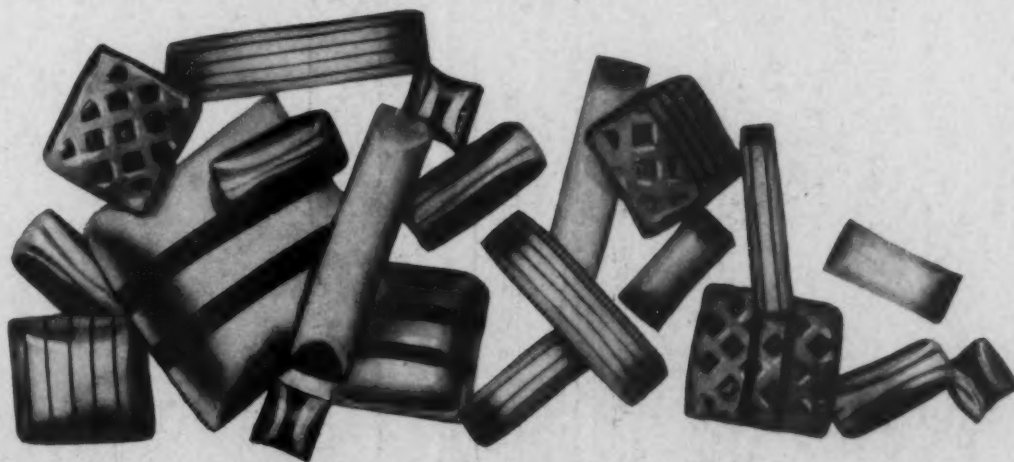
Another Addition to the Famous Savage Line



Runs Silently Smoothly Easily.
One-Sixth Horse Power Motor.
Can be operated from an ordinary Electric Light Socket.
Capacity practically unlimited.

For Cutting Hard Candies

Pillows, Soft Center and Satin Finish Goods, Kisses, Chips, Waffles, etc.



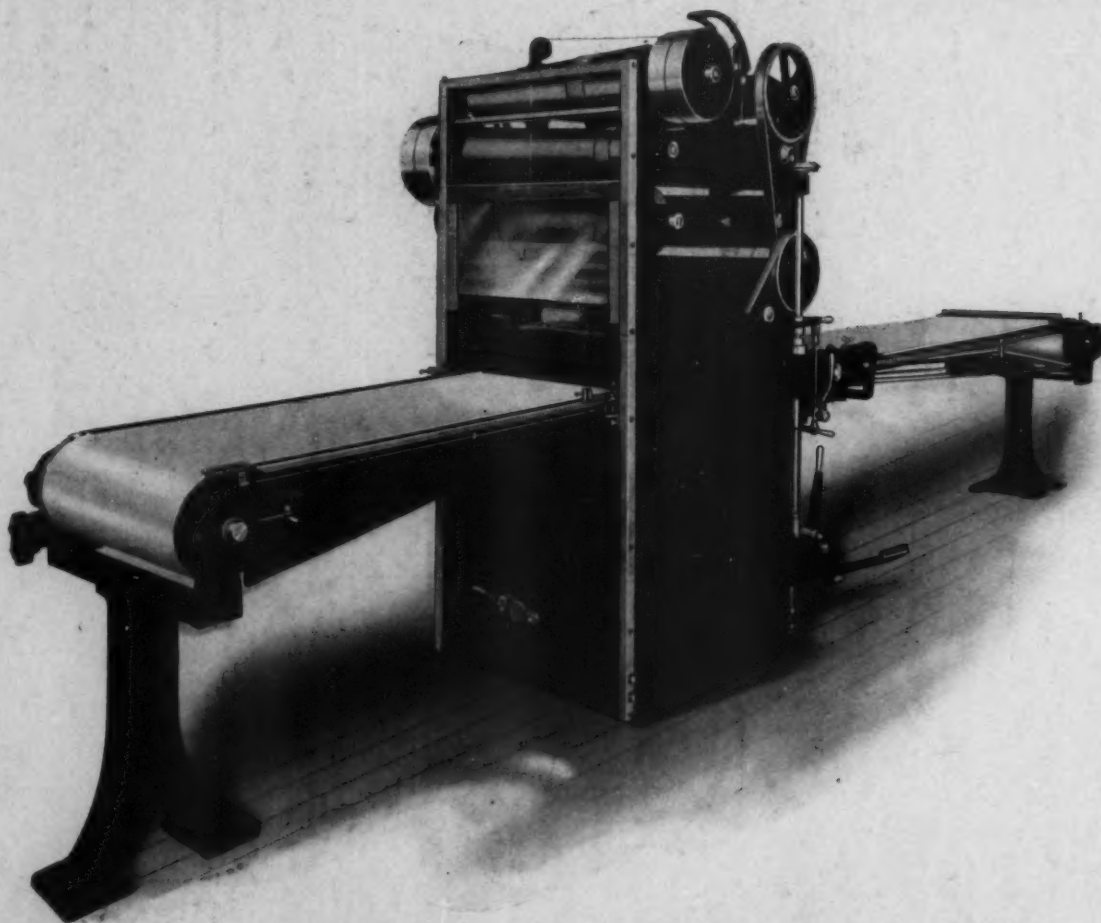
Descriptive Circular and Prices on Request.

SAVAGE BROS. CO.

2638 Gladys Ave.

Chicago, Ill.

A New Member of the Enrober Family
The 24 inch Enrober



For the Candy Trade

The Enrober family is now joined by a larger member. Designed originally for the Biscuit Trade, it has adapted itself as readily to the needs of the candy manufacturer.

Embodied in the 24" Enrober, are the same principles which have made our 16" Enrober the standard for chocolate coating machines the world over.

We are offering this larger capacity machine to the candy trade at the same price for which the 16" Enrober formerly sold. (See announcement in August number of Candy News or write for information.)

National Equipment Company

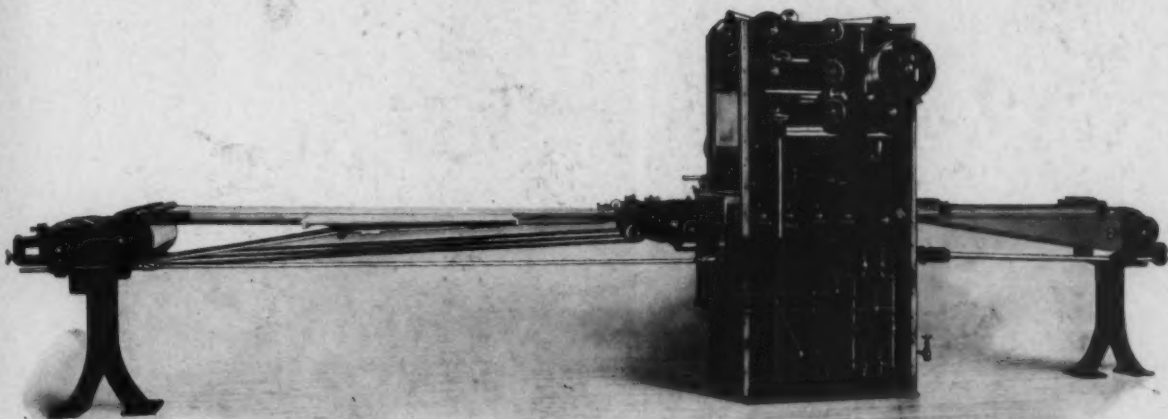
Largest Manufacturer in the World of Candy and Chocolate Machinery

Springfield, Massachusetts, U. S. A.

We are now building these machines in quantity, and will make every effort to supply the trade in time to meet their Fall manufacturing schedule. Enter your order while deliveries are still good.

A Standard of Value

The 16 inch Enrober



Nothing Changed
—but the Price

The 16" Enrober justly merits the fame it has attained throughout the world, wherever candy is manufactured. In almost every candy factory throughout this country and Canada, the Enrober is demonstrating its efficiency and reliability year in and year out.

We shall continue to build our Enrobers with that infinite care which makes it possible for us to say that Enrober No. 1 is still in daily operation and going strong.

At its new low price, the 16" Enrober is the world's best value in candy machinery. (See announcement in August number of Candy News or write for information.)

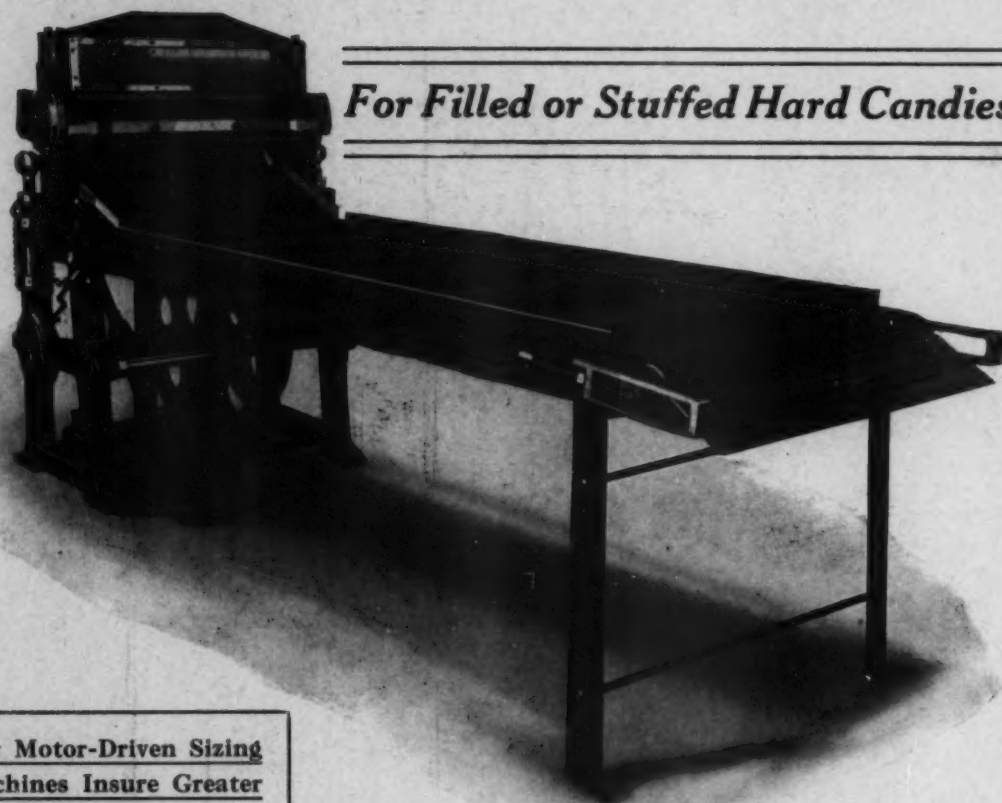
National Equipment Company

Largest Manufacturer in the World of Candy and Chocolate Machinery

Springfield, Massachusetts, U. S. A.

Enrobers will be moving fast so we urge you to enter your order while deliveries are still good.

SIMPLEX Improved Motor Driven Plastic Press



For Filled or Stuffed Hard Candies

Our Motor-Driven Sizing
Machines Insure Greater
Production and Accuracy

The Simplex Improved Plastic Press has a greater output capacity than the older type machines; *24 inch Die Bars*; direct motor drive, two speeds, special wire screen conveyor. Operation economical, simple and exceptionally accurate—every machine given a practical test before shipment.

*An assortment of popular dies included
with every press. No extra charge.*

VACUUM CANDY MACHINERY COMPANY

326 W. Madison Street

CHICAGO

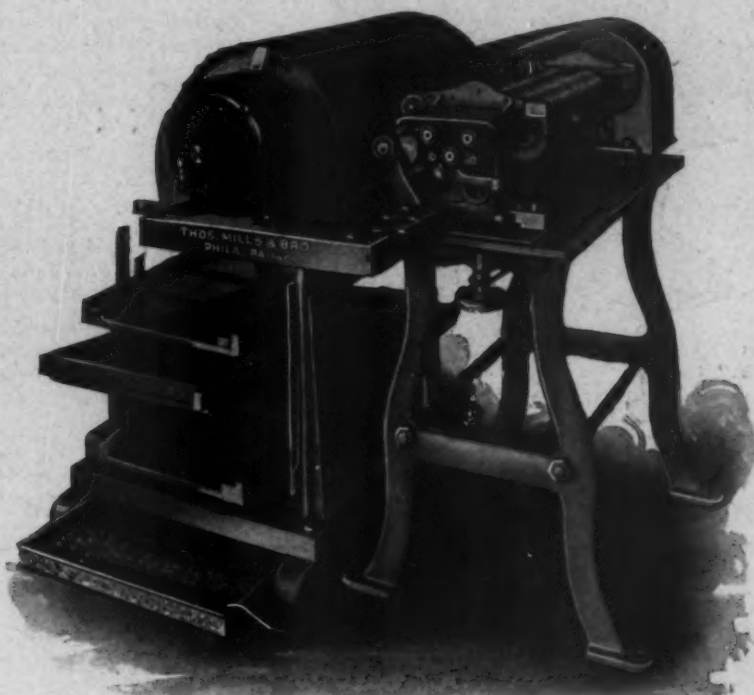
Thomas Mills & Bro., Inc.

1301 to 1315 North Eighth St.

Philadelphia, Pa.

AUTOMATIC SEAMLESS HARD CANDY MACHINE

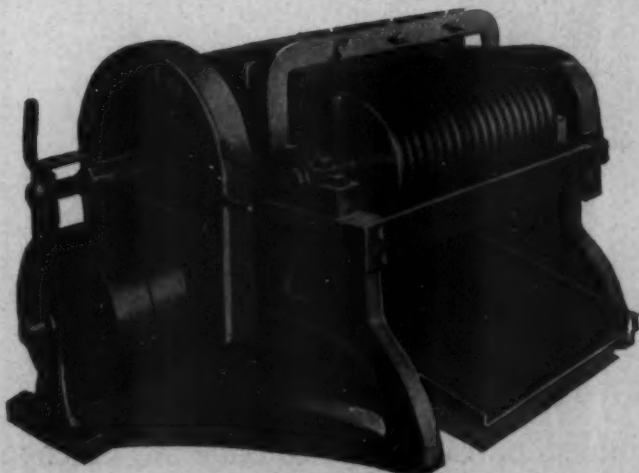
Send for pamphlet on this machine.



Have You Our Latest Catalogue on Entire Line of Candy Factory Equipment?

If not, same will be sent on advice as to just what machinery is required.

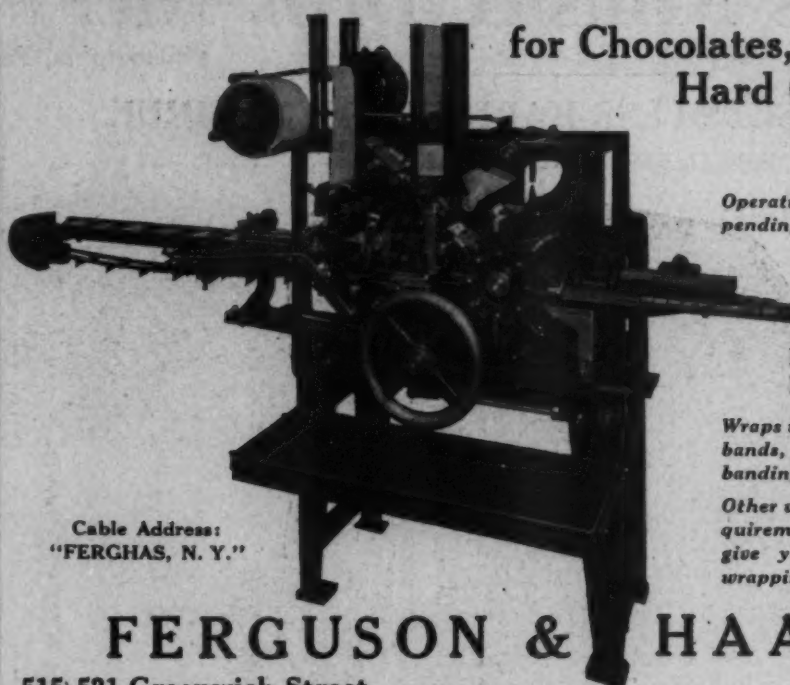
No. 10 BALL MACHINE for COCOANUT, CREAM and CHICLE



**HEADQUARTERS
FOR CANDY
MACHINERY,
TOOLS AND
EQUIPMENT
SINCE 1864**

"If it's listed with Mills it's a success"

HIGH SPEED WRAPPING MACHINE



for Chocolates, Almond Bars,
Hard Candies and
Other Confections

Operating speed—70-110 per minute, depending on the character of the piece to be wrapped.

Suitable for pieces ranging in size from:

	LENGTH	BREADTH	THICKNESS
Min.	1½"	¾"	¼"
Max.	4½"	1½"	¾"

Wraps in foil, waxed or glassine paper and bands, sealing the bands, or, if desired, the banding device may be omitted.

Other wrapping machines for different requirements. Send us samples and let us give you full particulars in regard to wrapping them.

Cable Address:
"FERGHAS, N. Y."

FERGUSON & HAAS, Inc.

515-521 Greenwich Street

NEW YORK CITY

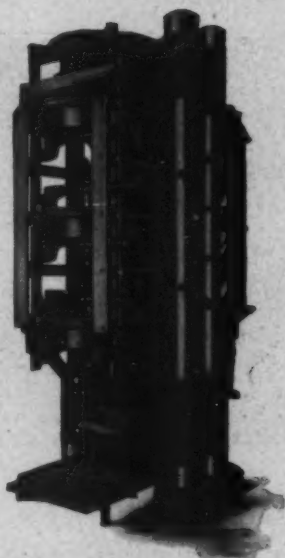
A 32-page Prospectus with full details of the Directory and Consolidated Confectionery Supply Catalog will be sent to supply firms on request.



Coming—A complete Buyers Directory and Information Service for Manufacturing Confectioners. Shall we reserve a copy for you? Delivery in January, 1924. The Consolidated Confectionery Supply Catalog will save your time and space.

The Manufacturing Confectioner Publishing Co., 30 N. La Salle St., Chicago

Cocoa Butter Production



Patented and Patents Pending

NEARLY all large Chocolate Manufacturers are successfully using our equipment.

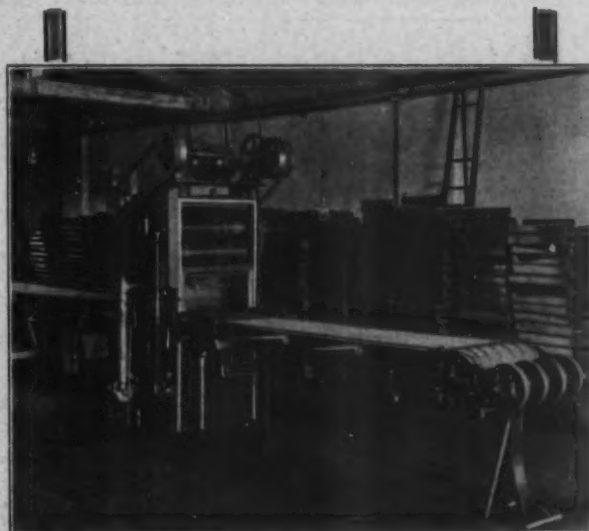
The efficiency and perfection of Carver Cocoa Butter Presses and Operating Equipment is the result of constant, specialized study of the products the machines are designed to manufacture.

Our catalog is at your disposal

FRED S. CARVER

ENGINEER

8 West 40th Street
New York



Stronger Belts especially woven for your machines

A Gilmer Coating Belt is the belt for longer wear, smoother running and all 'round better service.

Gilmer originated the endless coating belt. Gilmer belts are especially constructed to fit your machines. They come ready to run.

Tensile strength is another outstanding feature of Gilmer Coating Belts. They are solidly woven from the finest long fibre white cotton. A Gilmer belt means years of perfect satisfaction.

Gilmer Coating Belts are surprisingly low in price. Write today for complete information.

L. H. Gilmer Co.
Philadelphia

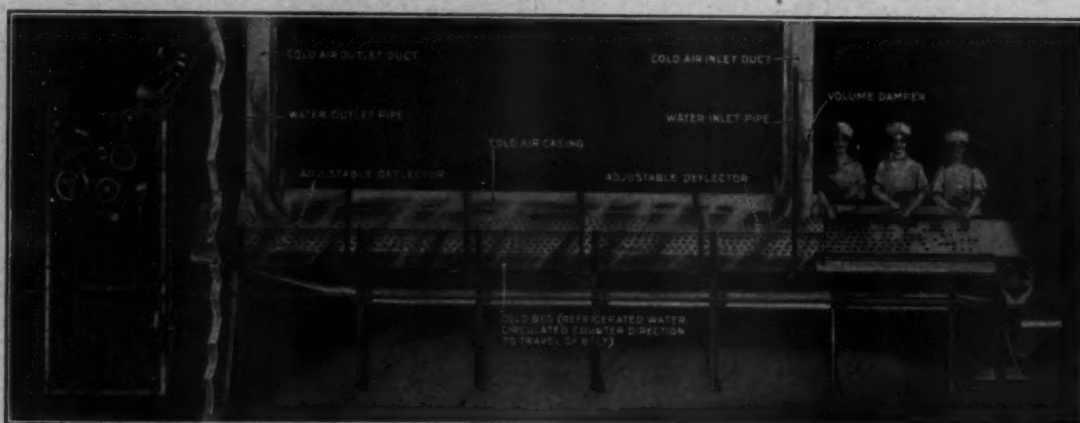


"It's a Gilmer Product—You can depend on it."—Happy Van, the Gilmer man.

Gilmer

The "Coldbed" Chocolate Drying and Packing Table

Directly Connected to Coating Machine



Patents Pending

Something You Should Know

The Largest, the Most Representative, the Best Known Candy Makers Have Exclusively Adopted the Coldbed and Will Use No Other Method for Chilling and Drying Chocolate Coated Goods. Why? What Is the Secret of Its Popularity? What Reason Can Be Given for the Unfailing Repeat Orders Which Follow a Trial Installation?

THE ANSWER IS OBVIOUS—The practical, experienced, production manager has learned the value of applied engineering knowledge. As an example, he now knows that for the same rise in temperature one gallon of refrigerated water will take up as much heat as two hundred cubic feet of refrigerated air.

He knows that in Chilling Chocolate goods smaller crystals of the fat are formed when the cooling is rapid, while in slow cooling larger crystals are formed and the fracture consequently becomes dull and grayish.

Having knowledge of such well known principles it was just plain common sense to apply them practically as we have done with the COLDBED Table, and as a result the chocolates by this method show a finer texture and the centers, being properly chilled throughout, are in the best possible condition for immediate packing. And (this is important to your pocketbook)—

1. The COLDBED Tables are sold at a very reasonable price. Our customers say we do not ask enough for them.
2. They are great money savers. No girl at the feed end of the table. The goods are not handled on the COLDBED until they reach the packer.
3. The scrap and waste is minimized. The goods are immediately set after leaving the enrober and hence there are no feather edges.

We will serve you wherever you are. Write for literature and complete information.

Also manufacturers of

"The Chillblast" Air Conditioner, Cooler and Dehumidifier,
The Bentz Drying System for Starch Rooms
and

The Bentz Air Conditioning Apparatus for Maintaining Uniform Atmospheric
Conditions in Rooms or Factories.

BENTZ ENGINEERING CORPORATION

Main Office: 140 Cedar St., New York

Factory: 661 Frelinghuysen Ave., Newark, N. J.

{

Forms and Routine for Material Control Systems

By a Purchasing Agent

MATERIAL control systems vary considerably from plant to plant and an attempt to describe any one in detail might result in missing some of the good points of the others. We are, therefore, describing below some of the more interesting forms and routine details as used in various plants. For the sake of brevity these are listed in brief tabulated form.

Material Standards Sheet

A typewritten sheet, 8½ x 11, perforated loose leaf binding. One is made out for each general class of material, with such additional sheets as may be needed to cover variations of individual varieties. A sufficient number of duplicates are made to supply copies to every executive interested. There is one master book in which all suggested changes are noted. This sheet contains a full description of purchasing specifications and other standards of the material to which it relates.

Stores Balance Record

This is the backbone of most material control systems. It is made up in various forms, either in loose leaf or card ledger, preference being given to a visible style of index which will hold a fairly large sheet. The one illustrated is of this latter type, the sheet, when opened out, being eleven inches wide by eleven and three-quarters inches long, and is reversible so that both sides can be written upon. This stores balance record serves as perpetual inventory and is kept up to date by daily entries.

There are four main columns, each with suitable subdivisions. In the first column all purchase orders are entered. As shipments come in, these entries are checked off and the quantities received are entered in the second column and added to the total on hand. As the stores are issued, the total quantities for each day are deducted from the balance on hand in the second column. The function of the third column is an important one. Whenever production orders for future manufacture are made out, the stores department is notified to reserve a sufficient quantity of material to take care of these orders. Such reservations are entered in the apportioned column and remain active until checked off upon delivery of the stock on the requisition. By deducting totals of column 3 from, balance on hand, column 2, the amount available for other orders is shown. This balance is entered in column 4. This method avoids the danger of allowing the net amount

of stores available to run below the amount required. Unless some such safeguard is used, there is danger of the stores clerk assuming that, because of a large quantity on hand, he has ample supply, although there may be production orders ahead which will more than use up the balance. At the top of the sheet necessary space is provided for maximum and minimum quantities of orders and such other specifications as are necessary.

A stores balance record serves several purposes. First, if it is kept up daily, it is possible to take off in a few minutes an inventory of all goods on hand at any time. Second, it shows promptly when either the quantity on hand or the quantity unapportioned and available is below the order point or the minimum to be carried on hand. As soon as either of these points is reached, the store clerk issues a notification to the proper executive and a purchase order is put through for replenishment of this supply. Furthermore, it serves as an accurate record of quantities used over any given period.

Experience has shown that no perpetual inventory, such as the above, is absolutely accurate. It is necessary to verify the balances on hand by actual physical count. Some firms take a complete inventory of stores every six months or a year. A better practice, however, is for the stores clerk to issue an order for a physical count of an item whenever the quantity on hand reaches the minimum amount. This is the easiest time to check up the quantity on hand and strike a balance.

There is some question as to where the stores balance record should be kept. In one very successful plant the record is kept in the office of the purchasing agent, on the theory that he is responsible for keeping a sufficient quantity of supplies on hand.

Another firm has the record kept by the stores clerk, on the theory that he is handling the requisitions and has a closer contact with the materials. This method has the disadvantage that it is easier for the stores clerk to cover up shortages or errors than if the record is kept by someone else.

The third method, which seems to be generally accepted as preferable, where the company has a planning department, is to have the stores balance record kept in the production department, generally by the same clerk who issues material requisitions. This is on the theory that it is more important to have the records in the production office where the planning depart-

A copy of each requisition should be placed in the follow-up file of the purchasing department.

Invoices From Vendor

It is a usual practice to request the vendor to send invoices in duplicate. As soon as these come in, one copy is retained by the purchasing department until the shipment is received and the other copy is sent to the receiving clerk to hold until the shipment arrives. When the shipment has been checked, receiving clerk notes the actual count and weight and returns the copy to the purchasing department. As soon as the goods have been passed by the inspection department, the proper notations are made on the invoice and if price, terms and other details agree with those on the purchasing requisition, the invoice is then sent to the financial department for payment. The duplicate copy may be retained in the purchasing department file or passed on to the cost department as a basis for costing.

Purchasing Department Forms

As a large part of the purchasing department's work is the collecting of information and as all the transactions must be kept track of carefully, several files are needed to facilitate this work.

In addition to the regular correspondence file, which is generally indexed alphabetically according to firms, the purchasing department needs a catalogue index to keep track of catalogues, circulars and other information which it has on hand.

One purchasing agent has a very comprehensive material file. He has a vertical file folder for each class of material. The folder itself is printed with the necessary forms, so that it serves as a material record card. In this folder he files everything relating to that material.

On the folder purchasing specifications, quantities to be bought, etc., are shown. There is also a space for names of dealers and other sources of supply. On one side of the folder a record of purchases and prices paid is entered.

Miscellaneous Forms

There are a number of other miscellaneous forms needed around a plant for handling material. One of these is known as a Move Ticket or Identification Card. It is made out by the stores department when the material is issued and serves not only to identify the material, but as instructions where it is to be delivered. Another form is needed for goods returned by a department to the stores. This is a notification to the cost department so that the proper credit may be made on the cost records.

What Is Your Purchasing Problem?

Questions and comments and inquiries on any phase of the subject of purchasing as applied to our industry will be greatly appreciated.—Editor.

LOYALTY

If put to the pinch an ounce of loyalty is worth a pound of cleverness.

Observations of the French Confectionery Market

We are indebted to Mr. W. G. Ungerer for some very interesting observations of the confectionery industry in France during his extended trip abroad this year. We quote from his letter:

"From the American point of view the French candy industry has by no means kept pace with development in other lines. Candy in France today is as in times past, a luxury to be indulged in only in limited amounts and on special occasions. Its consumption on a large scale is still to come and in the meantime hardly a pound is eaten where Americans buy a hundred. In other words, the purchase of candy there is an event and not a commonplace; until this attitude is changed consumption will be limited.

"The blame for this situation rests with the candy manufacturer of course but is not to be laid on any lack of skill on his part as a maker of confections. Where he has proved himself deficient is as a merchandiser. The American sweet tooth is not inherent; it has been developed by clever advertising. In France this has never been done although in other lines the French have shown full appreciation of the power of expertly applied publicity. So candy in France, and for that matter in other European countries as well, remains a highly-prized and luxurious accompaniment of fête days.

"Turning to the manufacturing side, the French manufacturer far excels his American competitor in one respect at least. With him the flavoring of his candy is a science and an art combined. The utmost care is used in choosing the finest ingredients and in compounding them; not the slightest deviation in the uniformity of a given flavor is permissible while on the other hand the search for new flavors which shall be both novel and enticing goes on.

"Perhaps the explanation is that the French taste for candy is less universal than ours, is more sophisticated and exacting. At any rate the American candy maker can learn much from France in the matter of flavoring his product.

"One great difference between the merchandising of candy in France and here is that abroad candy stores as such are rare, and, except in the larger cities, unknown; the large bulk of confectionery being distributed by the grocers and pastry shops.

"American candy has made its way abroad and is firmly established there even though the 1918 attempt to seize the European market for sweet chocolate ended in a fiasco. Everywhere, even in many of the smaller places, American candy is procurable, both chocolates and hard candies, while in England American chocolates almost dominate the market for goods of this character, though we have nothing to offer to compete with the very expensive boxes of French bon bons."

As to general conditions in Europe and more particularly in France, Mr. Ungerer found them far more favorable than would be supposed from newspaper reports. In France everyone is busy and prosperous notwithstanding the high living costs which are unquestionably a burden. French industry is flowing and the export trade is unusually good when the disturbed conditions of foreign commerce are considered.

C. W. Nordland, formerly connected with The Franklin Sugar Refining Co., has become associated with the T. B. Metzel Company of Philadelphia.

The History, Manufacture and Merits of Molasses

By Chas. C. Brown

EDITOR'S NOTE: *Mr. Brown is a practical molasses and sugar man of New Orleans. He has handled these products for the past thirty years and writes this treatise on Molasses based on his observations and close contact with the producers and consumers of the product, and with the sincere conviction that there is a woeful lack of knowledge on the part of the food manufacturers using molasses regarding the manufacture, chemical and physical properties of the various kinds and grades on the market.*

THE MANUFACTURING CONFECTIONER does not vouch for any statements made herein; we are publishing Mr. Brown's manuscript without reservations, feeling that our readers will be glad to hear the case of "Louisiana Molasses" on its merits and draw their own conclusions. There may be two sides to this matter and this magazine is always open to conviction and to receive the free and frank criticisms and comments on any discussions in our columns. We will especially appreciate any questions or comments from factory superintendents, buyers or dealers on this subject of Molasses.—EDITOR.

A Bit of History

THE trace of sugar cane and its uses for making sugar dates back into and before 327 B. C. Ancient history states that cane was crushed, the juice boiled in open pans to a thick mass, and then poured on thick mats to allow the liquid to drain off from the solid sugar. These mats were placed over holes in the ground and the liquid used for medicine. We find that as years advanced more care was taken of this boiled juice or liquid, and its presence on the tables of ancient tribes was a treat or honor. In some sections childless unions were penalized and forced to drink of this fluid. So you may use your own imagination as to the uses and effects of PURE MOLASSES.

As this run off liquid is now called MOLASSES, and to enter fully into the question of MOLASSES, one must through necessity dwell principally on the production and manufacture of sugar, for molasses in every sense is an unwelcome by-product, for there is not a sugar factory that strives to make molasses; they seek with all of their energy to make or produce a large yield of sugar, and as a natural consequence they secure a by-product, "MOLASSES".

The Molasses of "Ye Olden Tymes"

Before and during the Civil War there was not a molasses made in Louisiana except by the open-kettle or open-train process. The cane was crushed in large roller mills and the juices were then boiled in large oval shape pans arranged in groups; as the juice boiled, scums (the impurities) would continually come to the

top and be removed. The liquid finally became a thick mass, that is, crystallized, which was determined by the "Rule of Thumb". Then these sugars or massecuite were placed in large barrels or hogsheads with holes or openings in them, and stored in a room on a slanting floor called the Purgery, to allow the liquid part to drain off from the sugar and drip into vats placed at the low end of the Purgery. It was this molasses that our grandfathers were delighted with, and which was so readily sold, but now with very few exceptions this class of goods is but "fond memories".

As we have advanced year by year the sugar industry has had a magnetic influence over many brilliant minds, both in the mechanical and chemical world, and to them is due untold credit for the many perfections over the old crude methods, and we yet believe that the highest stage of perfection in making sugars and molasses is in its infancy.

In former years canes were brought from the fields to the mills, and considerable dirt accompanied the cane to the mill and went into the juice. Now all factories wash their cane before it goes to the mill.

The open pan has been supplanted by the highly improved vacuum pan, a more sanitary, efficient and cheaper method of boiling cane juice into sugar. The hogshead and inclined floor Purgery has given way to the efficient and high-powered Centrifugal which turns at a high rate of speed with its porous basket-like shell which separates the massecuite (as the boiled cane juice is termed) into the two parts, throwing off the liquid or molasses and retaining within the sugar crystal in a dry state, and it is

from this method of manufacture that molasses derives its name, "Centrifugal Molasses".

Centrifugal Molasses

The products of this class of manufacture are termed as follows:

- 96° test or Raw Sugars,
- Plantation Granulated or Clarified Sugars, and
- First Centrifugal Molasses.

The average purity of this molasses is 55.

When 96° test or Raw Sugars are to be manufactured, the class of Centrifugal Molasses is poor in quality, for the molasses contains the impurities that are present in the juice when boiled, and the sugars not being washed while in the Centrifugals, the molasses, while containing considerable sucrose or sugar content has not the richness that the same molasses would have, had the object been to obtain white sugars. for in washing, the film of rich sucrose molasses is washed from the grain. This molasses also contains certain non-sugars which have held in suspension the ready crystallization of such sucrose or sugar contents yet in the liquid form.

To secure this sugar in crystal form this "run off by-product or first centrifugal molasses" is placed in small tank cars, stored in a hot room or in large storage or magma tanks to allow crystals to form, and then again be put through, at a later date, the same Centrifugal machines to separate this sugar from its by-product. These are called Second Sugars and Second or final Blackstrap Molasses. The average purity of these molasses is 35.68.

Plantation Granulated or Clarified

On the other hand, if Plantation Granulated or Clarified is the object of the planter, the process is much the same, but the massecuite while in the Centrifugals separating the sugar from its by-products, is subjected to several washings of pure clean water while turning at a high rate of speed which assists in removing the film of molasses from the crystals of the sugar. These sugars are produced in a white or almost white color and are called Clarifieds. In making plantation granulated more care is taken as to forming a grain when boiling. For instance, the planters have now devised a process called "Making the Grain", which is merely watching the syrup boil and just when that moment arrives to show the liquid is prepared to form a grain about one to two pounds of Standard Granulated (fine) sugar is applied to the boiling tank, which assists in the production of a uniform grain.

This product is then passed on to the Centrifugals and after leaving them in an apparent dry state, white and free from molasses, is sent through the granulator for final process. This by-product or *First Molasses* in this process is naturally lighter in color, richer in sucrose or sugar content, due to the fact that the sugar crystals were washed, causing more sucrose to stay in the liquid.

This product is handled in several ways, for instance: Sold in its raw state to canners and blenders, as an unboiled First Centrifugal for use in making *Imitation "Open Kettle Molasses"* by blending this molasses with certain parts of cane syrup. Or it is boiled to a density and either sold as First Centrifugal molasses to canners (for mixing with corn syrup), to bakers, confectioners and various food manufacturers (this molasses is one of the best grades for confectioners' use), or after being boiled it is placed in cars stored in hot room or magma tanks to make crystals and then returned to the Centrifugals at a later date to separate the sugars and its by-products which are known as:

Second sugars, used by caramel, mincemeat manufacturers, meat packers, confectioners and bakers.

Second Centrifugal molasses, used by canners (for corn syrup mixtures) and bakers, tobacco manufacturers, meat packers, confectioners (for taffy).

The average purity of this molasses is 37.52.

Now if the purity of this molasses is very high, and shows from chemical tests that it would be financially practical to obtain further sugars, this product is again placed in hot room or magma tanks and proceed over the same process. The result of this operation is called

Third sugars, and

Third or final blackstrap molasses, used by bakers, tobacco manufacturers, canners, feed mixers, etc.

The average purity of this molasses is 23.86.

As stated above, the aim of the manufacturer is sugar, and to secure the greatest yield one must use care and skill at all times—clarification being the watchword. The purity of the raw juice is brought about by the addition of lime and sulphur fumes in the proper quantity and at the proper time.

Too much care cannot be given to these elements, namely, the proper supply of lime and sulphur fumes; we are sorry to say that some sugar houses do not consider the seriousness of this important operation, which is often left to an ignorant white or negro laborer who does not realize the importance of his duties. Many failures to secure the proper results in a sugar house, both as to the quality of sugar and molasses can be traced to carelessness in the application of these lime and sulphur fumes. However, as we have said before, science is not asleep and there is now a system in course of perfection whereby the liming can be kept accurately in control according to the operation of the mill, and with the addition of proper equalization tanks to adjust the proper liming, the dirt and impurities can be removed from the raw juices and thus render a clean juice to be boiled to a massecuite, rather than boiling a juice with impurities in suspension.

It is far better and more profitable to remove the dirt or impurities in the raw state than at-

tempt to remove them after the damage has been done by boiling them into the juices. Technically speaking, there are the following grades of molasses made:

Grades of Molasses

Open-Kettle—Old Style Drips.

Open-Kettle Centrifugal—Boiled in open pan, sugars and molasses separated by Centrifugals.

First Centrifugal Molasses.

Second Centrifugal Molasses, sometimes called Blackstrap.

Third Centrifugal Molasses or Final Blackstrap.

There are, however, many qualities and styles of each of the above molasses, which is due solely and chiefly to the method of manufacture, which is governed by the importance attached to the process of securing the proper purity of the juices, either raw or while boiling. We feel safe in saying that there is not a standard method yet in existence whereby any two planters can or will produce the same grades or quality of molasses. Only a few years back there was no attempt on the part of a sugar planter to secure the aid and assistance of chemical advice to any great degree. The method of manufacture in various houses was handed down from father to son. This "Rule of Thumb" method is nothing more than to secure a small drop of the boiling juice between the thumb and forefinger and to determine by sense of touch if the juices had boiled a sufficient length of time, which is only learned by constant contact and practice throughout many seasons.

Variables in Molasses Manufacture

To secure good molasses the prime factor lies in the proper and efficient manner in which the original raw juices are handled, and there being no standard formula to follow, each factory makes a different grade of molasses, and if there were any standard formulas we believe that molasses, being a by-product, is entirely too sensitive to conditions for any two factories to make exactly the same style of molasses.

First, its quality is effected by the natural salts in the ground in which the cane is grown, for molasses that is made from cane grown near the Gulf always possesses a salt flavor and generally is a better baker's molasses than molasses produced from canes grown in the interior and along the river section of the state. To further prove our assertion, we may mention that sugars made in Cuba in the raw state for refining purposes from canes grown on land which has been reclaimed from former marsh lands on the island of Cuba, is very salty, lacks keeping qualities and the filtered refiner's syrup is more of a brine syrup than a sugar syrup. Furthermore, during the course of manufacturing sugar the impurities are continually being cast off from this article and forced into the molasses, which under natural consequences forces the molasses to contain excessive lime, sulphur and iron salts, and sometimes other

chemicals used in clarifying the massecuite, such as hydro-sulphites in the shape of Blanket, Clarophos, etc.

Cane Syrup

Let us make some mention in regard to Cane Syrup. Unlike molasses, this is sought by certain large mills, some being equipped solely for that purpose and other plants prepared to make syrup or sugar as conditions of the market afford the best returns. There are many syrup mills operated by farmers individually and jointly on a co-operative basis. This product does not radiate very far from its center of manufacture, it being sold or traded to stores and neighbors in any and all classes of containers. It is true that war times brought this syrup more into use and caused to be introduced more improved conditions, more production, and a better grade, packed in standard packages, but little of this syrup finds its way to the food manufacturer.

The Future of Molasses Consumption

Now, while the consumption of molasses from the corner stores and the familiar syrup or molasses pitcher has given way to the tin can package, we do not believe that molasses will ever be a thing of the past. Good molasses will disappear to some extent, for with improved methods sugar planters who are solely looking for a yield of sugar will exert all means at their command to secure every pound of sugar obtainable, and naturally the molasses will be poorer in quality as the methods of sugar manufacture improve. From the year book we gather the following figures to show the extent and development of the molasses business for the past two years:

	1920.	1921.
Total cane ground.....	2,594,092	4,279,959
Grocery grade sugars made.....	239,496,760	335,273,384
Raw or refinery grades.....	102,778,115	284,739,906
Blackstrap molasses	10,066,981	17,813,937
Molasses other than Blackstrap....	6,983,612	7,900,163
Syrup	1,911,220	2,910,943

These figures are from large mills and do not include returns of small mills throughout the state. Cane syrup, with few exceptions, is used for direct consumption, but in times of need it can be used by a manufacturer with good results. But all grades of molasses are used both for direct consumption and by manufacturers, bakers, confectioners, meat packers, pork and bean packers, vinegar manufacturers, prepared breakfast foods, etc., while Blackstrap is used by distillers, yeast makers, feed mixers, foundries, etc.

Molasses in some sections of this country is used for a daily diet, for instance, in the state of Texas it is not considered proper to sit down at a table unless the molasses or syrup pitcher is in evidence. In other localities the same conditions exist, but as we go further West and North we do not find such a keen appreciation of good molasses for anything except baking and candy making purposes. This is not due to the fact that they do not enjoy the product, but

the coming of the canned molasses and the high freight cost have caused people to more and more abstain from the use of good molasses; therefore, we regret to say that many inhabitants of the United States do not appreciate the wholesome, appetizing and beneficial values of PURE HIGH GRADE MOLASSES.

For instance, the Canadian people and Michigan people also use large quantities of palatable tasting Blackstrap Molasses put up in various size tins, whereas with a little fair and honest education and a *quality article* the results in the northern territory would be far different.

We dispute the statement that the confectioner's business on molasses goods is falling off due to his failure to secure *good* molasses. Every confectioner and baker can secure all of the good molasses that he needs, and does not need to seek any part of his supply from a foreign source, but they must remember that with good molasses, as with good flour, it costs money and should not be discarded for a cheaper and inferior article; nor should the purchasing of this commodity be left to an inexperienced person.

To reduce the quality of your raw product means to jeopardize your production; many confectioners, like some of the bakers, have sought to economize by buying cheap molasses, for they do not realize the unseen values they are losing, but merely take the word of some wiseacre salesman who says, "What is the use of buying high-priced molasses? I can offer you something for less money just as good in color and bake"; but does this salesman or the buyer realize that this molasses has not the sugar content that Pure Molasses has and thus lacking the essential qualities on which you are depending for your standardized quality?

Beware of Bleaching Agents

Certain manufacturing chemists have devised hydro-sulphite powders, also zinc and lime mixtures, so that when certain parts of these chemicals are mixed with molasses they tend to brighten or bleach the molasses mixture five to twenty shades lighter in color. But color is not the most important factor in molasses; *sucrose or sugar content* is what you seek in a liquid form combined with natural glucose and salts which constitute quality and produce results; therefore, these chemists have supplied a process to deceive the ultimate buyer or user of high grade molasses.

For instance, a manufacturer is in the market for some molasses; he writes to two or more dealers to send samples of various grades of Open Kettle molasses (feeling in his own mind that he wants to use the best goods obtainable), but he names a range of prices from four to eight cents a gallon cheaper than the actual market value of PURE OPEN KETTLE MOLASSES. The supplier is after the business, he believes that the manufacturer does not know

the difference, so he blends together certain inferior grades of molasses which responds readily to these bleaching compounds and submits them for approval. The class of goods used in these mixtures allow this molasses dealer to make from 8 to 10 cents a gallon profit and yet stay within range of the prices given by the manufacturer.

On the other hand, another dealer figures that you want the best that the market affords, and as the value of Kettle Molasses is higher than your limit of price, he submits pure Open Kettle Molasses with a margin of profit of 2 to 4 cents per gallon, and Mr. Manufacturer discards these samples, for the asking price is 7 to 12 cents per gallon higher than his limit and feels that this dealer is a profiteer. And thus an injustice to buyer and seller exists because of a lack of knowledge and understanding of the respective values of the product.

Determining Molasses Values

A great many confectioners and other food manufacturers listen to random stories to the effect that there is no difference between first, second and third molasses, except that they are cheaper in price. Now let us look at an average analysis.

Various Grades.	First Molasses.	Second Molasses.	Third Molasses.
Purity	55.00	35.68	23.86
Sucrose	48.75	35.67	28.78
Non-sugars	16.82	18.97	30.33
Glucose	13.65	21.85	21.90
Ash salts	5.45	7.10	8.32
Water	20.78	19.86	18.99
(Natural moisture)			

Now these sulphites will hold in suspension the impurities such as iron and ash salt from two to six months, provided that they are not exposed to air, but this is not the trouble with the manufacturer; his are greater and sometimes disastrous. For any molasses that is treated with bleaching sulphites will not hold up under heat; therefore, in making a cake or candy mixture, when the heat is applied the mixture is apparently in the best of condition, but when this heat departs so does the quality of your goods depart, and these sulphites start to disintegrate and your product takes on a very dark, dull appearance and the keeping qualities are destroyed. The salesman writes in about complaints from the trade, your manager takes it up with the foreman, and you are all at sea as to the cause of the complaint, and little do you realize that you *bought this cause* and instituted the complaint in that cheap molasses which you were told was just as good as a high-priced article.

The yield of sugar per ton of cane from an open kettle house is smaller than from a ton of cane through a centrifugal house, but the molasses from the former is larger in quantity and richer, hence the manufacturer who uses blended centrifugals instead of pure open kettle molasses is cheating himself, for he loses the results of a heavy sugar content which is always

evident in open kettle molasses. For instance, last year Cosa natural factory secured 80 lbs. of sugar and 12 gallons of molasses per ton of cane, while the average yield of any centrifugal house was 120 lbs. of first sugars and eight gallons of first molasses, with the same percentage of extraction. This gives you an idea of how much sugar is left in the open kettle goods.

While conditions are improving and there is a general feeling among the manufacturers for standard grades of molasses, I am not inclined to go the limit of manipulation to standardize molasses. Furthermore, I believe the section of the world producing the best molasses in color, richness, purity and mildness of flavor should get due credit for producing that class of goods, and this product should not be abused and used under the name of foreign molasses to obtain a better price.

Foreign vs. Domestic Products

West Indian molasses costs more, for there is a duty charge included in the price as on all foreign products. Then again, the supply is so limited and competition so keen that the buyers sometimes run their prices up. We fail to see where this molasses has any better characteristic qualifications over Louisiana goods. As to flavor we cannot understand nor appreciate what a confectioner would want with a raw article that possessed an old and *rummy* flavor in preference to a smooth, delicate can flavor such as is possessed in Louisiana goods.

To better explain the West Indian flavor, we may call it a rancid or fermented honey taste. Where it obtains this flavor we are at a loss to know, but most likely from lack of sanitation. We do know that there is also chemically made an extract which is applied in mixtures of Louisiana goods to produce this very same flavor, but sometimes this extract is not needed, for high grade molasses that remains in storage an undue length of time will develop a *rummy* flavor.

We have known several users of foreign molasses to be active buyers in large quantities of natural smooth flavored molasses, either open kettle or first centrifugal molasses which are used in blends so as to give these foreign molasses a milder and more pleasant taste or flavor, but these same consumers do not seem to want to give due credit to the Louisiana article and thus the foreign product takes the lead over the home product. We make no apology for our zeal in protecting and defending the quality and standing of the true Louisiana product.

In all kindness and respect for our friends, the bakers and confectioners, we must say that the average buyers are the easiest marks when it comes to buying their molasses, and they cannot place the blame on anybody but themselves. Louisiana produces enough high grade mo-

lasses, pure and wholesome, to supply the need of every baker and confectioner in America and then have some left, but it is not the quality that the baker considers, nor the price, inasmuch as he pays more for foreign goods; but he listens to some salesman who tries to tell him all about the qualities of imported goods, secures his order, sends it to his house which, in all probability, ships at least two-thirds Louisiana molasses and one-third foreign molasses, and in many cases fills the entire order with Louisiana molasses doped with a couple ounces of rum extract, and makes triple the profit on the transaction. If Louisiana did not produce some of the best, if not *the* best molasses for manufacturing purposes, it is hardly logical that the National Biscuit Company would maintain a purchasing office here with a warehouse combined devoting their attention to sugars and molasses and buy yearly from 20,000 to 40,000 barrels "Made in Louisiana" in preference to the so-called high grade foreign molasses. This in itself is evidence of the quality of Louisiana goods.

We do not dispute the fact that there exists a special trade, in certain sections, who prefer certain flavors for their molasses; some have been taught to appreciate this fermented flavor, others the smooth, rich flavor of Louisiana molasses commonly known throughout the world as "New Orleans molasses."

Molasses Candies

This confection will never go out of existence unless the confectioners allow it to, for failure on their part to secure the better quality goods from the proper source. There is not a school kiddie nor a grown-up who will refuse a good piece of molasses candy, be it taffy, chip, or kiss. Every retail candy dealer will sell good molasses taffy if the confectioner will pack it in the proper size packages. Molasses candies prove beneficial in curing colds and hoarseness; the eating of molasses candy will provide active digestion and create the necessary fermenting juices in the stomach to keep the system in a healthy condition. It is a known fact that in levee camps, road camps, sawmill and plantation settlements and prisons that molasses is made a part of the standard daily diet to keep the workmen in proper physical condition. It is better than a medicine, for it is a mild, active, pleasant laxative and yet a wholesome food.

There is nothing harmful in the manufacture of pure Louisiana molasses; its clarifying agents are lime and sulphur fumes, both of which are used as medicines, neither of which is injurious to health. The words "Contains sulphur-dioxide" means nothing injurious, but to the contrary insures *perfect purity*.

We look to the North and West for good flour, and for the same corresponding reasons the confectioner has a right to look to Louisiana for pure, wholesome, honest molasses.

CUSTOMS OF THE RAW MATERIAL TRADES*(Continued from page 27)*

A friend of the writer's, himself an importer, had undertaken to repack 15 cases of walnuts into 5 lb. cartons. When he had used up all his walnuts he found he was short 36 lbs. The loss was $4\frac{1}{2}$ per cent but it seems this was shrinkage, too.

Among the other instances where incorrect conversion equivalents are employed in the trade, the most notable are the 50 and 100 kilo packages where the variations of a quarter and half pound respectively would be a loss to the importer did he not bill you gross for net and thus charge you for the bag or container besides. Again, the long ton is equal to 1016.3 and not 1015 kilos, while the metric ton becomes 2204 lbs. instead of 2200. While the discrepancies between the actual and customary conversion equivalents of these larger units appear to be small in comparison with the value of the goods, they nevertheless indicate the care which should be taken to select them.

During the war when the price of milk was soaring, some misguided but well-meaning trade bureau printed an exhaustive survey of milk prices here and in England. The comparison purported to show that the price of milk per pint was considerably higher in England than in the United States. Which might have been all right but for the one detail they overlooked, namely, that the Imperial pint weighs 20 ounces while ours is only 16.

To determine the proper equivalent for the conversion of foreign to American weights, the table included with this article should prove of value. It might be a good plan to keep it on file for occasional reference. For all ordinary purposes the following ratios will suffice:

Metric: American = 11:10

Imperial: American = 112:100

The latter is exact; the former is accurate to one-fifth of one per cent. Where a standard is desired for checking the metric weight of small units, our regular currency will serve us in good stead:

The U. S. nickel weighs 5 grams.

The U. S. silver half-dollar weighs $12\frac{1}{2}$ grams.

Much of the misunderstanding and confusion which is constantly arising between shippers, importers and their customers in regard to foreign package weights and their interpretation in domestic units might easily be avoided if the purchasing agent will put himself to the slight trouble of making clear his understanding of the weight at the time the goods are purchased. A mutual understanding of trade customs may do much to clarify a muddled situation, but the specification method will save the buyer's time and the importer's temper.

(In the next installment—local standards—the origin of unusual package weights—the how and why of tare weights and tare allowances—how invoice weights are determined, etc.).

(To be continued)

Gustave A. Bunte, one of the founders of the firm of Bunte Brothers, Chicago, candy manufacturers, died at his home at the age of 70 years. He learned the candy business in Philadelphia and came to Chicago in 1869. Seven years later, with his brother Ferdinand, and Charles A. Spoehr, he founded the firm of Bunte Brothers at 416 North State street. Mr. Spoehr sold out his interest in 1906 and Mr. Bunte and his brother withdrew from active management in 1917, when Theodore W. Bunte, the present head, became president of the company.

AMERICA SEEN AS SALVATION TO SWISS CHOCOLATE MAKERS

SLIPPING slowly from hard-earned gains, the Swiss chocolate industry is fighting to hold the shreds of its former prosperity. The first and most serious blow was the low currency values of war-affected countries. This had the double disadvantage of rendering these countries, which formerly bought so heavily from Switzerland, powerless to purchase; while at the same time they can themselves manufacture chocolate at much less cost. Tariff barriers are effective agents also in limiting the Swiss exports. According to Consul Haynes, Berne, in a report to the Department of Commerce, high overhead, high value of the Swiss franc and high prices for raw products now make Swiss chocolate expensive to the consumer, but the Swiss industry is planning a counter attack. Branch factories in depreciated-currency countries where cost production is less are being established, and experts are on their way to the United States to test in a small way, as the beginning of larger things, the capacity and willingness of a select American clientele to buy a choice chocolate at a higher price than the American manufactured article. The appeal is to be one of quality and not price, for quality reputation is the only trade asset of the Swiss article, and manufacturers assert that if foreign markets are lost it will never be due to a failure to live up to this reputation.

Seaweed Gelatine

New sources of food gelatine have been developed in Lower California where great quantities of seaweed are being treated and reduced to a clear and nearly tasteless vegetable gelatine of high quality. Consul Leighton Hope, Ensenada, informs the Department of Commerce. In recent years there has been from time to time a small quantity of seaweed gathered on that coast and shipped to the United States, but just now it appears to be assuming greater proportions. The weed gathered is known as Gerldeum, and as many as fifteen varieties exist along the Lower California coast. It grows at varying depths from one to ten fathoms or even deeper; and always on rocks, never in sand. It is gathered by divers working under scientific methods, with air pumps and diving bells. The weed is first dried in the sun, then boiled and exposed to a freezing temperature. It is then exposed to the sun or artificial heat, the water evaporated and the gelatinous product produced.—Chicago Chamber of Commerce.

What's Your Problem?

Any question pertaining to the manufacture of candy or to the ingredients which go into it, the factory equipment or any phase of candy factory management will be welcomed. If the answers are of interest to the trade as a whole they will appear on this page without reference to the name of the writer. Questions of confidential nature or of individual application will be handled direct by mail.

Advancement comes through a more complete knowledge of the subjects involved and it is the hope of the publishers of THE MANUFACTURING CONFECTIONER that its readers will feel that this is the logical medium for the collection and dissemination of practical information relating to the manufacture of confectionery.

Once an answer is published it becomes public property. Read the answers whether they are in response to your questions or not and if you do not agree or if you feel we have missed the point write in and say so and let us have your comments on the problem in question. Discussion is one of the broad avenues to truth.—EDITOR.

Hydrometers and How to Use Them

(778) *Taking advantage of your "Editor's Note" to suggest subjects of special interest to us, we would like to see an article about the Baumé gauge. We would like to better understand the principle of the hydrometer and the right method of using and interpreting its readings.*

Saccrometers

THE sugar gauge is so familiar to us all that we seldom stop to think what its true significance is or what its readings mean. As a matter of fact the readings from a Baumé scale such as is generally in use in candy factories would mean nothing if we understood the history and fundamental principle of this instrument. It is composed of purely arbitrary figures which are of no value in themselves and serve only to insure our getting a syrup of the same density each time.

History of the Baumé

Hydrometers are one of the oldest types of instrument recorded in history. They are accurately described as being in use among the Egyptians as early as 400 A. D. and as they had reached a point of definite graduation and nomenclature at that time it is fair to suppose that they were known and used long before that date. The Egyptian hydrometer or "hydroskopion" consisted of a long, slim, silver tube weight at one end and graduated on the sides. Whether these graduations were standardized in any way or not is not known. It is not probable that they were but each instrument was a law unto itself and served only to guide its owner to repetitions of former solutions.

The Original Baumé

In the middle of the 18th century one Antoine Beaume devised the scale which bears his name. He arrived at the fixed points and graduations as follows: 15 parts by weight of salt dissolved in 85 parts by weight of water produced a solution of 15° Be. That being the point to which the hydrometer sank in this solution it was marked 15. The point to which it sank in dis-

tilled water be called 0 and divided the intervening space into 15 equal parts. His scale for hydrometers registering the density of liquids lighter than water was arrived at in a similar manner but does not apply to this subject.

Balling's Scale

The preserving and canning industry have adopted the scale worked out by Balling and bearing his name. This scale was supposed to indicate the percentage by weight of dry sugar contained in any solution but did not take into account the fact that a very appreciable shrinkage occurs when sugar is dissolved in water; this contraction varies with the concentration of the syrup. Balling's error was corrected and a true scale worked out by Brix which is the one in use throughout sugar refineries and in laboratories throughout the country.

Different industries require different data regarding the liquids they use and these different demands have given rise to many different types of hydrometers and scales but in the candy industry and those allied to it the three already described are the ones in use. Different rules govern the use of the instruments in different liquids and at different temperatures but the general rules for all hydrometers issued by the U. S. Bureau of Standards is sufficient for the candy makers use.

Rules Governing Use of Hydrometers

1—The hydrometer should be clean, dry and at the temperature of the liquid before immersing to take a reading.

2—The accuracy of the hydrometers observations depends, in many cases, on the cleanliness of the instruments and of the liquids in which the observations are made.

In order that readings shall be uniform and reducible, the surface of the hydrometer and especially the stem, must be clean, so that the liquid will rise uniformly and merge into an imperceptible film on the stem.

3—The liquid in which the observation is made should be contained in a clear, smooth glass vessel of suitable size and shape.

4—The liquid should be nearly at the temperature of the surrounding atmosphere, as otherwise its temperature will be changing during the observation, causing not only difference in density but doubt as to the actual temperature. When the temperature at which the hydrometer is observed differs from the standard

temperature of the instrument, the reading is not truly the density of the liquid according to the basis of the instrument or the quality of the liquid according to per cent but a figure which differs from the normal reading by an amount depending on the temperature and on the relative thermal expansion of the instrument and the character of the liquid.

5—The hydrometer should be slowly immersed in the liquid slightly beyond the point where it floats naturally and then allowed to float freely.

6—The reading should not be made until the liquid and the hydrometer are free from air bubbles and the liquid at rest.

7—In reading the hydrometer scale the eye is brought to the height of the level surface of the liquid and the point on the scale read, which appears to coincide with the level surface.

The Bureau of Standards instructions contain more information but the above covers those points which are vital to the candy man. They will bear a little elaboration.

The weight of the instrument is, of course, the dominant factor in its operation but its shape is also important as the longer and slimmer it is the more marked will be the difference in its immersion for different densities. It is then evident that any adhering crystallized sugar will, by destroying both these elements of balance, materially alter the reading. A dirty stem has the added affect of causing the surface of the liquid to climb up the stem or become depressed beyond normal. This change from the normal meniscus is liable to cause errors of parallax which may amount to a whole degree.

It is of the utmost importance that the cylinder used for gauging be made of glass as it is impossible to read a hydrometer accurately by looking DOWN on it from above. The point to be read should be as nearly as possible on a level with the eye. Try it and see the different readings possible.

The Temperature Variable

The most generally and constantly violated of all the rules is that of temperature. Not only is the liquid tested at a temperature different from that of the surrounding atmosphere but the reading is made somewhere above 220° F. when the sacchrometers made for the trade are scaled to be read at 60° F. The ordinary variations are cared for in practice by corrections supplied on various tables but in none of these has the writer been able to find where the makers allowed possible the taking of a reading at a temperature above 212° F. At this point a reading of the favorite 34° would actually indicate a solution of 43.2° in other words the reading would be off 9.2° on account of the temperature at which it was made. Consider that 34° means a sugar content of 63.3 per cent while 43.2° is equivalent to 82 per cent.

After all a Baumé reading means nothing but a degree for comparison and if readings are always taken under the same conditions and correctly the results will be equally useful for the cooking of a uniform crystal syrup. Whether you read the instrument at 225° F. or the standard 60° F. be sure that you read it the same every time and the density of your syrup will always be the same.

When handling syrups which have been forced to the highest temperature possible for their concentration, and this is the case when sugar and water are being cooked to higher Baumé, the temperature falls with startling rapidity through a range of ten or fifteen degrees as soon as the heat is turned off. This "first heat" should be allowed to dissipate before the observation is made and after the spindle is immersed the temperature should continue to fall at least two degrees further and the reading of the scale made as the mercury reaches an established degree.

If the instrument is kept clean and the preceding precautions observed carefully many of the failures and troubles now suffered in crystallizing will be avoided.

It is always well to have two hydrometers on hand which have been tested in practice against each other and any variations noted down on paper. Better still have one of known and tested accuracy against which all new ones may be standardized.

POLISHING PAN GOODS

(766) In the May issue of "The Candy Manufacturer" you had an article (No. 723) on jelly beans and pan goods. This article opens the way for one of my troubles, which is getting a smooth polish on pan goods.

As a rule, I have good luck with the gloss or shine, but at times there appears to be an oily surface which refuses to receive a smooth finishing syrup before polishing and forms a grainy effect on the goods when in polisher, thus making the goods look like a grey chocolate.

Here's the way the goods are run: Take jelly beans; they receive their regular coatings and are finally finished smooth with powdered sugar (xxxx). Placed in trays over night about one inch deep and left to dry. In the morning a coating of low cooked crystal syrup is given them in a clean pan and then they are placed in a wax ribbed lined polisher, about 200 pounds at a time, and left to polish with occasional use of talc. The syrup covers the beans in a real fine coating as a rule, but occasionally it seems to pull in a globule and dry unevenly. Two coatings don't seem to help before polishing and neither does cooking each coating separate.

From your letter we judge that it is your habit to allow the goods to lie over night before giving the finishing coat. This is not right as it puts the beans in the pan with too much surface moisture. The last coat of syrup which is applied to take up the powdered sugar should be applied immediately after the xxxx sugar and the goods then allowed to dry over night. In the morning they should be given a preliminary polish and allowed to lie at least until afternoon, better still overnight again, and then finished off in the morning. This second polishing need be only for a few minutes but is very important.

An uneven polish such as you describe is generally due to the wax in the pan becoming mixed with starch or sugar from the goods or to wet spots on the beans. The latter is probably your trouble and will be avoided if the finishing coat is applied the night before.

The syrup often acts as you describe it when the centers are too cold or the syrup too high cooked.

Be sure there is not very much starch or sugar dust flying around your polishing pans and that the air in the room is free of leaking steam or excessive moisture in any other form.

Developments in American Manufacture of Edible Gelatine

and Its Place in the Human Diet

An Address delivered before the Food and Drug
Commissioners of the United States

By L. M. Tolman

Mr. Tolman was formerly associated with the U. S. Bureau of Chemistry and personally directed the government investigation of the gelatine industry which has resulted in the revolutionary methods in the American manufacture of this important food product.—Editor.

THERE are a number of ways that this subject of Edible Gelatine might be discussed, but from the standpoint of this article, it seems to me that the most important phase is an explanation of the developments that have taken place in sanitary methods of manufacture, and second, in showing the actual place of Gelatine in the human diet.

Purpose of Government Investigation

Early in the history of the Food and Drugs Act, attention was given by the Bureau of Chemistry to the subject of Edible Gelatine, because it was found that Gelatine products were liable to contain certain metallic impurities, and were likely to be high in bacteria of various kinds. So the bureau decided to make a thorough study of the raw material used and the methods of manufacture, with the idea of finding the cause of these different troubles, and if possible, to propose remedies. This investigation by the bureau was carried out under my personal direction, and for two years or more, with the co-operation of most of the large manufacturers of Gelatine in the United States, a study was made of plant conditions, of raw material, and of the effect of different methods of manufacture upon the finished product.

In our investigation it was found that the source of zinc was the use of galvanized nets and other utensils; the presence of copper was due almost entirely to the use of copper evaporating tubes and copper cooking coils, and the source of arsenic was primarily in the raw material. All of these difficulties, however, were comparatively easily remedied, and at the present time the manufacturer of Edible Gelatine is able to meet the standards that the Department of Agriculture established at that time for these metallic impurities.

The control of bacterial spoilage, however, was a question much more difficult to solve, as can readily be seen when we consider the fact that Gelatine itself is one of the best culture medias for bacterial growth, and that in the course of its manufacture it is subjected to very favorable conditions for bacterial decomposition, both as to favorable temperature and moisture. Investigations for the solution of

this problem have been going on steadily. Some of the more important difficulties have been solved, but there were still some that remained for solution. In my opinion, these investigations marked the beginning of scientific progress in the Gelatine industry in this country.

It is my idea first to give you a brief review of the developments that have taken place in the manufacture of Edible Gelatine, directed primarily to solving the questions of sanitary manufacture. In order to do this, it will be necessary to briefly summarize the processes which were in use at the time this investigation was begun.

Summary of Early Processes

The raw material for most Gelatine is either ossein, that is, bone which has been freed of phosphate lime by treating with acid, or skin tissue of some kind. Ordinarily, either of these products is treated in practically the same manner, by first putting it into large vats with lime water, leaving it in this lime solution for from a few days to a few months, changing this lime water as it is necessary until the material has softened and swelled to a condition suitable for cooking. This softened and swelled material is then thoroughly washed with water and finally treated with diluted acid to remove the last trace of lime. Then it is ready to be cooked, which is done at as low a temperature as is possible. This thin solution of Gelatine which is drawn off is first filtered and evaporated sufficiently so that when it is cooled down in forms or pans it will form a firm jelly.

The early method of manufacture was to take this block of jelly and cut it up into thin sheets, spread it on metal trays or screens and dry in a current of warm, dry air. All during this process, and until the product was finally dried, it was subjected to a great amount of handling by hand and to many opportunities of contamination by dust or bacteria from the enormous amount of air which was blown over these thin Gelatine sheets.

Modern Sanitary Methods

The first important improvement in these processes as they then existed was the development of air filtering and air washing systems, so as to remove as far as possible all dust and

impurities in the air before it was used for drying the Gelatine. There have been some very successful air filtering systems installed, and at the present time practically every Gelatine plant has some air filtering system.

The next step was to eliminate the great amount of handling of the Gelatine by hand in the cutting and spreading, and to overcome this difficulty the chilled rubber belt was developed. This system consisted of running the Gelatine liquor on to a moving rubber belt as it passed through a chilled chamber. The Gelatine liquor set on this belt in the form of jelly. This thin layer of jelly was automatically removed from the belt at the end of the cooling chamber and spread on nets without being handled at all. Up to that time, this was one of the very important steps in the Gelatine industry, because it practically did away with the handling of the Gelatine. The method of handling just explained is the one generally used today.

Some other method of drying Gelatine than by means of blowing air over the Gelatine was the next important step from a sanitation standpoint.

Drying on a vacuum drum was tried and other methods that have been used on similar products, but without any success commercially, until the development of what is known as the Schweizer Drying Wheel. This is a large heated wheel, on one side of which the Gelatine liquor is fed continuously, and cut off on the other side in thin sheets, and then ground into various sizes demanded by the trade. By means of this drying wheel the Gelatine liquor is dried and in barrels within a very few minutes from the time it is drawn off the cook tank. There is little opportunity for development of bacteria, as the Gelatine does not come in contact with any large amount of air laden more or less with dust and bacteria. When we consider that in the old ordinary method of drying Gelatine it took from 24 to 48 hours, we can realize what a tremendous advance in the sanitary handling of Gelatine liquors this wheel drying of Gelatine represents.

As a result of this method of drying, it has become possible to make practically a sterile Gelatine, containing not more than 200 to 300 bacteria per gram, and it has become commercially possible to sell Gelatine under a guarantee of an extremely low bacterial count.

Food Value of Gelatine

The food value of Edible Gelatine has been the subject of many investigations and has at times been very unjustly criticized. In recent years, however, its place in the diet has been thoroughly established. In the light of present knowledge of nutrition, the chief value of Edible Gelatine as a food is in its ability to aid in the digestion of other foods, and to furnish its quota of amino acids to make other proteins of greater nutritive value. Gelatine is a substance

which stimulates the flow of the gastric juices; in other words, it has a stimulating value. As a source of protein itself, it cannot meet all of the body requirements, but in many combinations with other proteins it makes a very superior food.

Prof. E. V. McCullom, in the *Journal of Biological Chemistry*, Vol. 28, page 403, showed as a result of his experiments with the use of Gelatine in connection with wheat and oats that the Gelatine greatly increased the nutritive value of the proteins of both. Experiments made by Dr. Downey of the Mellon Institute have shown that the addition of Gelatine to rye and barley bran brought about a satisfactory food, that is, the Gelatine supplemented the vegetable protein and made them satisfactory for growth and development. Gelatine contains a relatively high percentage of amino acid lysine, and Prof. McCullom based his interpretation of his results largely on the lysine content of Gelatine.

At the present time there is being carried on at the Mellon Institute a very extensive series of feeding tests by Dr. Thos. B. Downey in confirming previous work which has been done along these lines, and so far these results have been very striking, in that they have shown that the addition of Gelatine to wheat, barley and rye has greatly improved the food value of them.

(Some very interesting data on the value of gelatine in infant feeding has been omitted here.)

Recently I made some tests on milk containing varying quantities of Gelatine, from $\frac{1}{2}$ per cent to 2 per cent, coagulating the milk with a lactic acid starter, and the difference in the sizes of the curds and the separation of the serum was very remarkable. The milk containing 1 per cent to 2 per cent of Gelatine was very smooth in appearance and did not separate at all on standing. You can readily realize that in feeding infants and invalids the physical difference of this curd would be a great factor in its digestion.

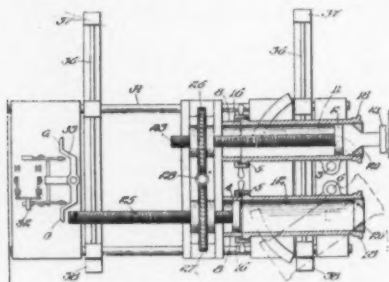
In conclusion, I want to say that the work done by the Department of Agriculture in this investigation of the manufacture of Edible Gelatine was undoubtedly of the greatest value to the industry, and the establishment of standards for metallic contamination, although in the beginning seemed a hardship to the industry, has actually proved to be a great and lasting benefit. So that American-made Edible Gelatines as a whole are superior to imported Gelatines in freedom from metallic impurities.

I have no doubt but that the establishment of bacterial standards would also be of great benefit to the industry as well as to the consuming public. The candy maker, ice cream man or anyone using Gelatine certainly can improve the quality of his products by buying a Gelatine he knows to be as free as possible from mineral and bacterial contamination.

WHAT'S NEW?

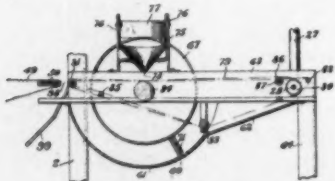
Patents

1,466,509. Candy-Making Machine. William B. Laskey, Marblehead, Mass. Filed Dec. 16, 1920. Serial No. 431,254. 7 Claims. (Cl. 107-14.)



6. In a machine of the character described, in combination, a receiving device for the product, a pair of cylinders, pistons in said cylinders, a frame on which said cylinders are mounted side by side, a track, said frame being slidable on said track to permit said cylinders to be shifted relatively to said receiving device to present the working cylinders alternately to the receiving device, a source of power on said frame, means operated from said source of power for moving said pistons simultaneously in opposite directions, and means operated by said pistons for reversing the direction of movement thereof.

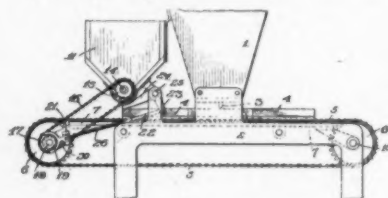
1,466,381. Confectionery-Coating Machine. Clyde J. Oyster, Alliance, Ohio. Filed Sept. 7, 1922. Serial No. 586,693. 4 Claims. (Cl. 91-3.)



1. A confectionery-coating machine including a tank, a trough spaced above the tank and having a perforated bottom, means for raising liquid coating material from the tank and depositing the same in the trough, a conveyor composed of a plurality of separate chains and arranged to carry articles to be coated beneath the trough and means

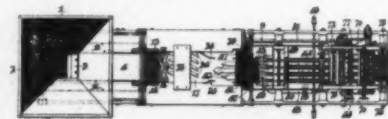
for moving certain of the chains through a different plane from the remaining chains.

1,466,338. Candy Depositor. William S. Nicholson, Rochester, N. Y. Filed Feb. 13, 1920. Serial No. 358,556. 5 Claims. (Cl. 107-3.)



1. In combination with a depositor comprising a hopper and an intermittently operating mechanism for feeding mold trays under the hopper; a starch feeding receptacle having a discharge opening arranged to drop starch upon trays on said tray feeding mechanism, and means for controlling said discharge opening, said means being controlled by trays passing under said discharge opening on said tray feeding mechanism.

1,465,402. Positioning and Feeding Mechanism for Confection-Wrapping Machines. Joseph Percy Remington, Philadelphia, Pa. Filed May 3, 1917. Serial No. 166,134. 15 Claims. (Cl. 198-29.)

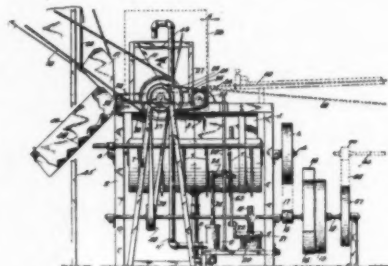


1. In a machine of the class described, means for setting upright promiscuously-fed generally conical objects, which comprise a moving surface upon which the objects are fed, and means for imparting to said surface a joggling motion of such intensity as to be capable of setting up on its base a conical object lying on its side, but not of sufficient intensity to overturn such a conical object standing on its base.

15. The combination of a setting-up table whereon dropped confections are set upon their bases, with means for causing the confections to travel to one end thereof; runways receiving confections from said table having travel-

ing bottoms for conveying the confections and also having guide channel portions whereby upright confections are confined and guided only at their plane of common dimension, in such wise as to prevent locking or capsizing thereof; and means at the ends of the channels for tolling off upright confections laterally therefrom, one at a time, to corresponding wrapping means.

1,462,883. Process and Apparatus for Making Confections. William S. Cloud, Peoria, Ill., assignor to James D. Roszell, Peoria, Ill. Filed May 2, 1923. Serial No. 636,071. 12 Claims. (Cl. 107-1.)



1. The process of coating candy centers and enveloping said coated centers with materials, which consists in continuously moving said centers and during such movement subjecting the same, first to a coating of plastic material to enrobe said centers and then without appreciably cooling enveloping said enrobed centers with a multiplicity of edible units.

6. In an apparatus of the character described, in combination, means for moving candy centers, means for enrobing said centers with a coating of plastic material as they are moved, and means for enveloping the enrobed centers with a multiplicity of edible units during the movement of said centers.

11. In an apparatus of the character described, in combination with a continuously operating coating means for enrobing candy centers with a plastic material, of means for enveloping said enrobed centers with a multiplicity of edible units, and means to separate the enveloped centers and the surplus edible units.

DUPONT CELLOPHANE CO. *INC.*

ANNOUNCES THAT AS OF AUGUST 1st, 1923, THEY HAVE SECURED THE EXCLUSIVE SALES AND MANUFACTURING RIGHTS OF THE PRODUCT KNOWN AS CELLOPHANE AND MANUFACTURED BY LA CELLOPHANE OF BEZONS, FRANCE.

WE ARE NOW IMPORTING THIS PRODUCT AND ALL INQUIRIES WILL RECEIVE OUR PROMPT ATTENTION.

MAIL ADDRESS
POST OFFICE DRAWER B, STATION B
BUFFALO, N. Y.

BRANCH SALES OFFICE
132 MADISON AVE.
NEW YORK CITY



CANDY BOX MATS, LACES,
LAYER CARDS, DIVIDERS, ETC.

American
Bon Bon
Cups

The Inevitable
Choice

Once tried
always used

AMERICAN LACE PAPER CO.

LARGEST PRODUCERS OF CANDY CUPS IN AMERICA

MILWAUKEE, WIS.

BRANCH OFFICES IN
PRINCIPAL CITIES

It's a good FOIL that works both ways!

Inside of a Conley Foil wrapper your candy is snugly protected. Its flavor and freshness are preserved to delight the palate of the consumer. This insures repeat sales.

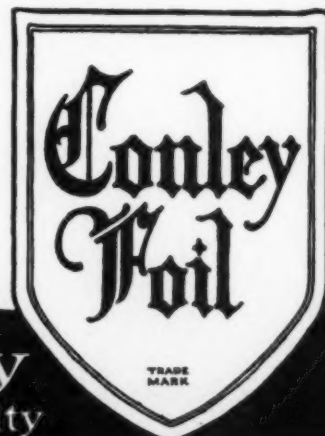
Outside, the wrapper presents a clean and shining surface, which pleasingly attracts the eyes of consumers, new and old, and drives home your name and trade mark.

We are well known for our ability to create selling designs, and to manufacture the highest quality candy wrappers on the market.

Why don't you send for a few samples, and let us submit at the same time, gratis, a design for your candy wrappers.

*Perfect protection
for perishable
products*

*Distinctive dress
for all products*



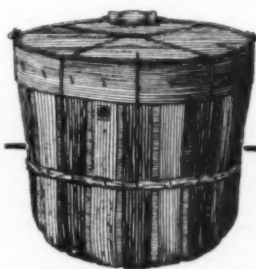
The Conley Foil Company
541 West 25th Street ~ New York City

KAPAK

A Better Candy Container

For Less Than \$3.00 Per Dozen

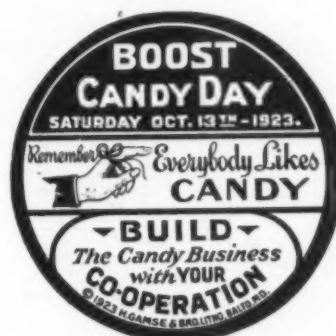
BETTER because stronger, more attractive, more durable and PILFER PROOF. The Edgerton KAPAK pail is preferred by carriers and dealers. Better, yet saves you over \$6.00 a ton on your bulk shipments.



A post card or your letterhead will bring you a KAPAK pail FREE.

The Edgerton Manufacturing Co.
Plymouth, Indiana

Established 1849



Price \$1.50 per 1000 Seals—Postpaid

Approved by the National Confectioners Association.

Use seals on your Letters, Invoices, Circulars and Packages.

It Will Help Your Business

ORDER TODAY FROM

H. GAMSE & BRO.

Lithographers to the Candy Trade
Box Tops—Wrappers—Advertising

Gamse Building

Baltimore, Md.

Metal Baskets With Beautiful Christmas Decorations Capacity About One Pound of Candy



90c

60c

90c

80c

90c each

Try a small lot today.

SILK WOOL

The silk-like packing material for boxes and baskets. Wonderful for dressing windows. Colors: Red, Green and Pink. Put up in 5-lb. packages per color. 60c per pound.

DECORATED PARCHMYN

Excellent Wrappers for your boxes. In beautiful designs.

Pure Aluminum Foil

In silver and 2 colors.
Extremely soft and pliable.
Cut to any size without charge or waste.

King Tut Foil Bonbon Cups

King Tut Foil Cornets

Try a box of 1,000 each, at \$5.00 per box.

King Tut Aluminum Foil

All in wonderful, rich designs.

Gold Tinsel Cord, 1 and 2 ply.
Gold Tinsel Ribbon, $\frac{1}{8}$ ", $\frac{1}{4}$ ", $\frac{1}{2}$ " and $\frac{3}{4}$ " wide.
Chocolate Dipping Paper.
Honey Comb Division Paper.
Wattolyn
Cotton Paper.
Fancy Tissue Paper.
Velour Paper, for sample cards.
Gold Paper borders.

KARL PAULI CORPORATION

454 Broome Street

New York City



Clear Track Ahead

You are fast approaching that season of the year when the demand for good candy reaches its peak.

Consider the quality of the candy box for your product as well as the quality of the product itself. The one, visible to the eye, must sell the other invisible product.

There's a clear track ahead for the manufacturer who adopts a sales-clinching candy box for his candy—the type that tells the “inside story of goodness” in a most convincing manner.

It has been our privilege for 67 years to design and manufacture candy boxes for many of America's leading successful candy manufacturers.

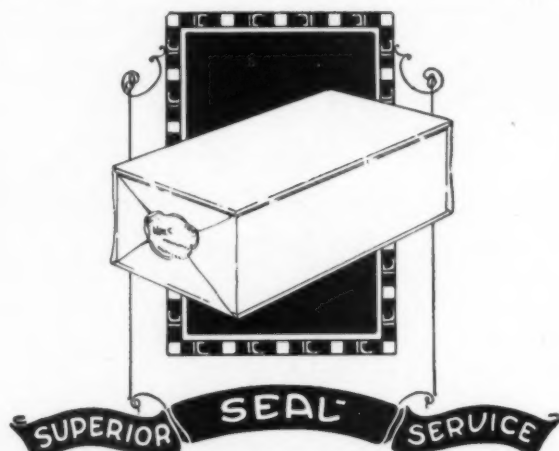
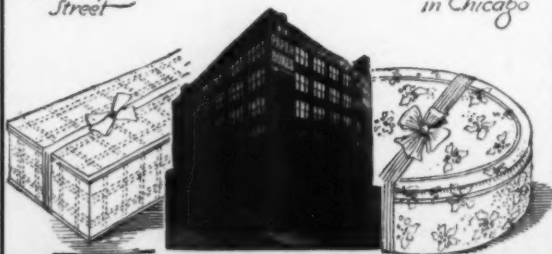
We are equipped to serve your needs in a like capacity. Our service is flexible for the reason that it satisfactorily serves both large and small accounts alike.

Let us help you keep sales smooth-running through the Holidays. A clear track ahead for your product is assured by the use of the right candy box.

H. SCHULTZ & Co.
CHICAGO

519-531
West Superior
Street

Largest
and Oldest
in Chicago



JULIAN GOLDCRAFT SEALS MEET THE DURABILITY TEST

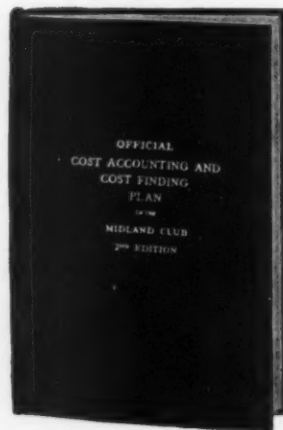
Their strength and incomparable sticking surface enable you to present your package to the consumer with its beauty and freshness unimpaired

SAMPLES AND PRICES UPON APPLICATION

Milwaukee Label & Seal Co.
SUPERIOR SEAL SERVICE
297-299 7th STREET
MILWAUKEE, —WIS.

OFFICIAL Cost Accounting and Cost Finding Plan

Adopted by
The Midland Club



\$3.00
the copy

For Sale by

The Manufacturing Confectioner
30 North La Salle St., Chicago

QUALITY PRODUCTS



Staley's Thin Boiling Starches
Moulding Starches

A. E. STALEY MFG. CO.

DECATUR, ILL.

88 Broad Street
Boston, Mass.

26 Church Street
New York City

Cocoa Beans and Cocoa Butter

EMIL PICK

Broker

67 Wall Street New York City

Telephone Bowling Green 1750-51

Over and Over Again

PETER COATINGS are constantly winning out in tests of the most severe and critical character. They are selected as offering greatest value for the price charged.

Since the products of many manufacturing confectioners have gained individuality and distinction by the use of Peter's beautifully made chocolate we believe you will find it well worthwhile to investigate thoughtfully this important line. It is made in our American factory with the care and thoroughness used by the founder, Daniel Peter, in the original plant in Vevey, Switzerland.

Samples, prices and constructive suggestions will be sent you upon receipt of your inquiry.

**Peter Cailler Kohler
Swiss Chocolates Co.**

Incorporated

131 HUDSON STREET
NEW YORK, N. Y.

Peter, Cailler and Nestlé Chocolate Products Are Manufactured at

Fulton, New York, U. S. A. Orbe, Switzerland
Pontarlier, France Broc, Switzerland





THE THREE SELLING POINTS OF GOOD CONFECTIONS

First: *The Quality Look*

Second: *The Aroma*

Third: *The Flavor*

When your confections *look* good, *smell* good and *taste* good, that's about all the goodness you can get into them. These results can be obtained only by using the highest quality coatings.

IDEAL CAPITAL VANILLA

is a leader among American vanilla flavored coatings, because of its high quality. Smooth in texture and easily hand or machine dipped.

Write today for samples and prices.

"Ideal Once—Ideal Always"

IDEAL COCOA & CHOCOLATE CO.

39-43 Park Place, New York

Mills: Lititz, Penn.



Mapleine Flavored Candy Is *Perfectly Flavored Candy!*

Manufacturing confectioners who realize the important part flavor plays in popularizing their candy with consumers, will consider no other flavoring than Mapleine in their goods. Experience has taught them that Mapleine produces flavor the public likes and repeats on.

Mapleine

Mapleine has all the easy working qualities of vanilla—is very highly concentrated and will not cook out. And the flavor Mapleine brings out holds true in the finished goods.

Send for a trial order

If you are not thoroughly pleased, write us and we will mark the bill paid. Convince yourself.



CRESCENT MANUFACTURING CO.
8 W. Connecticut St. SEATTLE, WASH.

THE rapid success of Swift's Gelatin can be traced directly to that distinguishing virtue of all the Swift Products—Swift quality.

Purity, freedom from taste and odor, good strength, unusual clarity, and dependable uniformity—all these you will find in Swift's Quality Gelatin.

Swift & Company
CHICAGO



This Flavor Quality Will Speed Up YOUR Fall and Winter Business

IF you judge flavors by the sales value they add to your products, you will find these *original terpeneless* Citrus Concentrates indispensable. They are highly successful in raising the flavor-quality of ALL types of candy, including the most difficult jellies and hard goods.

CXC
LEMON ORANGE
LIMES

LEMON @ LIMES COMBINED

impart to candies the absolutely pure, natural flavors of the fresh fruits. They are **GUARANTEED** to please you from every angle, including actual flavoring costs.

Prove the above facts to your own profit by sending for working samples and prices.

FOOTE & JENKS

Expert Flavor Specialists
JACKSON, MICHIGAN

**Most reliable gelatine
for Confectioners—**

WHITTEN'S GELATINES

are standard

— Established 1879 —

Strength, purity and uniformity
guaranteed

Manufactured by
J. O. WHITTEN CO.
Winchester, Mass.

Woolworth Bldg.
New York City

20 East Jackson Blvd.
Chicago

"Tell Us Your Coloring Requirements--"

TELL us the shades you require in your goods. We will supply the color to produce them.

Tell us the difficulties you experience in using food colors. Our thorough understanding of coloring processes—our experience in every field—will help you solve every coloring problem.

"National" accomplishes three things—offers food colors for all purposes, offers assistance in the use of these colors, satisfies the government's specifications for purity.

**National Aniline &
Chemical Co., Inc.**

Certified Food Color Division

40 Rector St. New York, N. Y.

Chicago Charlotte San Francisco



"NATIONAL" CERTIFIED FOOD COLORS



Be Prepared For Increased Business This Season!

Order your Hardener for Chocolate Coatings now.

Mr. Manufacturer take notice and insist upon Haehnlen's

NO OTHER WILL DO

HAEHNLEN'S HARDENER

(A Vegetable Product. NOT A FAT)

IN ALL CHOCOLATE COATINGS USED.

Your chocolates will DRY QUICKER, increasing OUTPUT.

Your chocolates will LOOK BETTER, increasing SALES.

Your chocolates will KEEP BETTER, increasing SATISFACTION.

Your chocolates will retain their color when the weather is humid and warm.

Before being packed for shipment, Haehnlen's Hardener is always thoroughly "aged" and "seasoned" and tested, thus eliminating any possibility of porosity and other detrimental action on the coatings, such as is caused by the use of inferior and unfinished products and raw materials.

Further Information and Quotations on Request.

Manufactured by

L. S. HAEHNLEN

3817 Wyoming St. St. Louis, Mo.



TRADE MARK
"Out lasts them all"

**Sole Distributors for U. S., Canada
and Europe:**

HAUG & CO., Inc.,

295 Broadway

New York City



A Chocolate Factory
devoted to the
manufacture of High
Grade Chocolate Coat-
ings, Liquors, Cocoas and
Cocoa Butter.

Samples and Prices sent on request

FORTUNE PRODUCTS CO.

**416-22 South Desplaines Street
CHICAGO**

VANOLEUM

(Trade-Mark Registered)

The ORIGINATORS
of
CONCENTRATED VANILLA FLAVOR

STRENGTH, QUALITY AND PURITY
THE SAME AS ALWAYS

Used for OVER TWENTY YEARS
by leading Confectioners, Ice Cream
Manufacturers, Bakers, Soda Dispensers
and Caterers.

Corrizo Extract Co.

**211-215 West 20th Street
NEW YORK CITY**



He can't do this

—when you use MERRELL-SOULE Powdered Milk!

YOUR milk and cream supply can't keep you on the run—can't eat up your profits through extra handling costs, extra refrigeration, extra sanitary precautions, etc., when you use

**Merrell-Soule— POWDERED SKIMMED MILK
POWDERED WHOLE MILK
POWDERED CREAM (up to 72% butterfat)**

Using Merrell-Soule Powdered Milk or Cream you are saving cooking expense and get a better product as you are not compelled to cook the moisture and flavor away.

You'll profit by sending for our 54-page candy makers' booklet.

MERRELL-SOULE COMPANY, SYRACUSE, N. Y.

USE  BRAND

**AN
EDIBLE GELATINE
OF QUALITY**



ESSEX GELATINE COMPANY

MANUFACTURERS

40 NO. MARKET STREET, BOSTON, MASS.

NEW YORK CHICAGO ST. LOUIS
175 South Street 94 Board of Trade 400 So. Broadway

PHILADELPHIA SAN FRANCISCO
708 South Delaware Ave. Second and Brannan Streets

Vanilla Flavors

Our Vanilla products conform to the suggestions of practical candy men whose flavor needs we have supplied for many years.

Because of our long experience, we can take care of your Vanilla Flavor problems from "Quality Products" down to "Penny Goods."

TRUE VANILLA EXTRACTS

Made from finest grades of prime selected beans.

STANDARD STRENGTH
DOUBLE STANDARD STRENGTH
COMPOUNDS AND CONCENTRATES

\$6.00 per gallon up.

VANILLA FLAVORS IMITATION

Scientific blends of Vanillin, Coumarin, etc.

FLAVORS
CONCENTRATES
COMPOUNDS

\$3.00 per gallon up.

Sold in any quantity from pints to barrels.

Write for samples and quotations. State quality you require.

Alex. Fries & Bro.

312-314-316 E. Second St. Cincinnati, Ohio

Established 70 Years

Dunn's Celebrated Edible Gelatine

Produced and blended especially for the
Ice Cream and Candy Industry.

*Our Goods have made good by the good way
they are made*

Grades for every class of work.

Purity, Value and Uniformity Guaranteed.

THOMAS W. DUNN COMPANY

546 Greenwich Street

Canadian Office and Warehouse:
55 Cote Street, MONTREAL

NEW YORK CITY

**ESPECIALLY
For The Candy Trade!**



CONFECTIONERS'

*Corn Syrup, Thin Boiling
and Moulding Starches.*

American Maize-Products Co.

41 East 42nd St.
New York

111 W. Monroe St.
Chicago

Marcone & Company, Inc.

98 Front St., New York City

BROKERS IN

**Cocoa Beans
and
Cocoa Butter**

Phones: Bowling Green 2281, 2282, 2283

Chocolate Molds



BARS, CAKES, FANCY PIECES
Double Molds for Hollow Figures
PANS—LARGE and SMALL

EPPELSHEIMER & CO.

34 Hubert Street

NEW YORK CITY

M. & H. GELATINE

Fifty-five Years of Study

Perfection in any product is only obtained as a result of constant study and experiment.

M. & H. Gelatine, a pure, clear, sterile product, is manufactured with a knowledge of the purposes for which it is to be used and holds its reputation of many years' standing only on merit.

Use M. & H. Gelatine for better results.

Samples and prices are convincing.

MILLIGAN & HIGGINS GELATINE COMPANY

222-224 Front Street
New York

Walter Baker & Co.'s Liquor Chocolates and Coatings

Are the Standards of the Trade for Confectioners' Use



Sweetened and unsweetened; light, medium and dark, whatever the difference of color or flavor, all are absolutely pure, smooth and uniform to work.

The taste and appearance of confections depend largely upon the coatings.

REG. U. S. PAT. OFF.

Send for Samples and Prices

WALTER BAKER & CO. LTD.

Established 1780

DORCHESTER, MASS.

57 Highest Awards at the Expositions of Europe and America



**UNEXCELLED for
COOKING QUALITIES**

**CORN PRODUCTS
REFINING COMPANY**

17 Battery Place New York City

GUM TRAGACANTH VANILLA BEANS GUM ARABIC

THURSTON & BRAIDICH
27 CLIFF STREET
NEW YORK

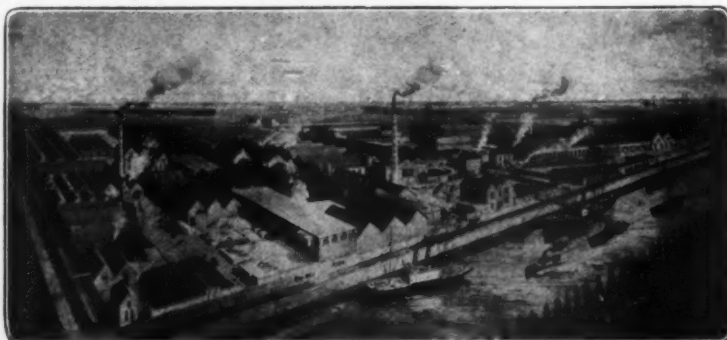
DUCHÉ'S EDIBLE GELATINE

Manufactured Especially for Marshmallow Work.

Its use insures a better product with maximum yield.

Purity, Strength and Uniformity Guaranteed

Established 1857



Plant in Belgium where PURE FOOD GELATINE is manufactured

IMPORTERS

SHELLED
NUTS
COCOA
BUTTER
EGG
ALBUMEN
GLACÉ
FRUITS
MILK
POWDER
MAPLE
SUGAR

IMPORTERS

PEELS
CHERRIES
GUM
ARABIC
CEYLON
COCOANUT
CANNED
FRUITS
JAPANESE
GELATINE

T. M. Duché and Sons

LONDON
BUENOS AYRES
GLASGOW
MANCHESTER
PARIS

LOS ANGELES
BOSTON
CHICAGO
CLEVELAND

376-378 Greenwich Street
NEW YORK

Factories:
VILVORDE
POINT BRULÉ } BELGIUM
GRIMBERGHE
AVELLANEDA, BUENOS AYRES

Von Dannenberg & Company BROKERS

Cocoa Beans Cocoa Butter

82-92 Beaver Street

:-

New York City



RATES: 25c per line; \$1.00 minimum. Forms close on first of month.

MACHINERY FOR SALE.

FOR SALE—A RACINE DEPOSITOR, has not been operated for the past two years but is in good condition; surplus equipment. You might purchase this at a bargain. Address T319, % Manufacturing Confectioner.

FOR SALE—MODEL K KISS CUTTER and Wrapper Candy Machine. Cost \$1,545.00 new. Sell for \$600.00. H. W. McClellan, % Krug Park, Omaha, Neb.

FOR SALE—LAMBERT PEANUT PICKING and stoning machine. Like new. Price very reasonable. Binghamton Candy Co., Binghamton, N. Y.

FOR SALE—1 Savage after-dinner mint machine with fifty ft. conveyor; 1 Hohberg Waffle and Pillow hard candy machine, with two sets of chains and fifty ft. conveyor; 1 80-gallon iron kettle peanut salter with steam coils, including two baskets; 1 20-inch power sizer; 2 Herald furnaces, complete with blower; 1 Racine marshmallow barrel heater; 1 six-ton Brunswick ice machine, complete with condenser and coils. Above machinery is in good working order. Will sacrifice for immediate cash sale. The Max Glick Company, Cleveland, Ohio.

FOR SALE—ONE 7-FOOT MURKLAND Revolving Packing Table, motor and all necessary fittings, as good as new; a money maker for a moderate priced chocolate packaged goods manufacturer. Cost \$400; will sell for \$250 F. O. B. New York City. Address all queries to Macy's Factory, 35th St., corner 11th Ave., New York City.

FOR SALE—SPRINGFIELD STARCH Cleaner, in good working condition. Price right. F. O. B. Burlington, Iowa. Clinton-Copeland Company.

FOR SALE CHEAP—BAKER CONTINUOUS Cooker; Hohberger Cream Machine, capacity approximately 18,000 lbs. per day. Address S 317, % The Manufacturing Confectioner.

FOR SALE—LITTLE WONDER CREAM Beater and Cooler; motor attached. Splendid condition. Allen & Andrews, Corning, N. Y.

WE OFFER FOR SALE ONE CALDWELL'S Imp. Peanut Sheller, as good as new; has been used very little. Can be adjusted to shell all sizes of peanuts, by hand or power. To be sold F. O. B. Albany, N. Y. Address Q 306, % The Manufacturing Confectioner.

MACHINERY FOR SALE—Cont.

FOR SALE

- 1 15-h.p. General Electric Motor, Direct-Current Shunt-Wound Motor, type E. C., Class 4, No. 2536, Form B, Amp. 25, Volts 500; 15-h.p. Spec. No. 8067. Speed 1200, with starting rheostat.
 - 1 Elevator Operator Controller, bought from Moline Elevator Company, Moline, Ill.; 7½-h.p., 500 Volts, Direct-Current No. 11.
 - 1 7½-h.p. Direct-Current, Compound-Wound Elevator Motor for single-belt machine. Made by the Northern Electric Company, Madison, Wis. Volts 500, Amp. 13, Speed 540. Made special for Moline Elevator Company.
 - 2 Power Starch Printers, made by the National Equipment Co., Springfield, Mass. \$90.00.
- Chase Candy Company, 102 South 2nd St., St. Joseph, Mo.

FOR SALE

- 1 Springfield Melangeur, 72-in.
 - 1 Lehmann Melangeur, 60-in.
 - 1 5-Roll Steel Refiner, 16x40-in., Springfield.
 - 1 5-Roll Steel Refiner, 16x32-in., Paul Franke & Co.
 - 2 Lehmann Cocoa Butterpresses, 4 Pots.
 - 1 Carey Cocoa Butterpress.
 - 1 Lehmann Cocoa Pulverizer No. 98.
 - 1 Bausman Disc Refiner for Coating.
 - 4 Springfield Melting Kettles, 2000 and 300 lbs.
 - 4 Springfield Triple Mills, 36, 27 and 24-in.
 - 2 Springfield Twin Mills, 36 and 32-in.
 - 2 Springfield Chasers, 40 and 50-in.
 - 4 Springfield 3, 4 and 5-roll Granite Refiners.
 - 11 Enrobers with Bottoming Attachment.
 - 2 Wood Moguls.
 - 1 Racine Depositor.
 - 1 Springfield Depositor for Chocolate.
 - 1 Baker Steam Sugar Cooker.
 - 1 Hohberger Cream Cooler and Beater.
 - 1 Werner Cream Beater.
 - 2 Simplex Plastic Presses.
 - 1 Rotary Plastic Press with 6 Sets Dies, Swiss Make, Kuestner Freres.
 - 3 Ball Beaters.
 - 1 Racine Sizer for Caramel and Nougat.
 - 3 40, 50 and 60-gal. Double-Jacketed Copper Kettles.
- Buttercup Cutters, Mills & Bracht; Racine Sucker Machines, Kiss Wrapping Machines, Cutters for Nougat and Caramels, Open-Fire Kettles, etc. All machinery guaranteed to be in good operating condition.
- Candy & Chocolate Equipment Co., Inc.
452 Hudson Street,
New York City.

MACHINERY WANTED.

REX CREAM CENTER MAKER, 50-LB. capacity, complete, in good order. Nougat Beater. P. O. Box 95, Station C. Montreal.

POSITIONS WANTED.

PLANT MANAGER AVAILABLE—A thoroughly practical and experienced factory superintendent who has attained a high degree of competency by working his way through every department of the candy factory from the kettles up. He has studied the chemistry of candy making and has made a number of original researches. He has been employed with some of the foremost manufacturing confectioners in Europe and America. He has the background and ability to satisfactorily handle the production end of any up-to-date confectionery plant. The opportunity to connect with the right kind of an organization more important than compensation. Address T321, % The Manufacturing Confectioner.

HELP WANTED.

WANTED—A FIRST-CLASS WORKING foreman for hard goods department by one of the large manufacturers in the middle west. Address T320, % The Manufacturing Confectioner.

WANTED—FORELADY FOR CHOCOLATE department. One who is capable of handling help, teach dipping and supervise packing fancy packages. State salary and furnish references. Address T322, % The Manufacturing Confectioner.

WANTED—FIRST-CLASS CHOCOLATE enrober man; one who understands tempering chocolate and can handle five enrobers. State salary wanted and furnish references. Address T323, % The Manufacturing Confectioner.

WANTED—FIRST-CLASS FOREMAN for hard goods department. Must understand his business and be able to handle help. State wages wanted and send references. Address T324, % The Manufacturing Confectioner.

WANTED—FIRST-CLASS PAN MAN. One who can handle help and take charge of department. State wages wanted and furnish references. Address T325, % The Manufacturing Confectioner.

FOR SALE—MISCELLANEOUS.

FOR SALE AND RENT—FLOOR space, 100x50, to let; completely equipped for manufacture of high-class gum goods, including two large drying rooms; Mogul, steam jacketed copper kettles, 10 to 250 gallons (stirring and open); starch, starchboards, steaming trays and all other utensils pertaining to manufacturing (capacity 15,000 pounds weekly). Will make an interesting proposition on easy terms to right party for purchase of entire equipment and rent of space. E. C. Rich, Inc., 29 9th Ave., New York City, N. Y.



The Allured Group Which Blankets the Field of Manufacturing Confectioners

Published by

THE MANUFACTURING CONFECTIONER PUBLISHING COMPANY, CHICAGO

The first and only publishing company in the world whose publications are directed exclusively to the manufacturing branch of the confectionery industry.

ADVERTISERS INDEX

	Page		Page
American Lace Paper Company.....	58	Kohnstamm & Co., Inc., H.....	16
American Maize Products Company.....	66	Lamont, Corriass & Co.....	61
Atlantic Gelatine Company.....	9	Marcone & Company.....	66
Baker & Company, Ltd., Walter.....	67	Merrell-Soule Company.....	65
Bentz Engineering Co.....	42	Milligan & Higgins Gelatine Company.....	67
Best Foods, Inc., The.....	8	Mills & Brother, Inc., Thos.....	39
Bush & Company, Inc., W. J.....	12	Milwaukee Label & Seal Co.....	60
Carver, Fred S.....	41	Monsanto Chemical Company.....	15
Conley Foil Co.....	58	National Aniline & Chemical Co.....	63
Corn Products Refining Co.....	67	National Equipment Company.....	36-37
Corrizzo Extract Co.....	64	Nulomoline Company, The.....	Insert
Crescent Manufacturing Co.....	62	Peter Callier Kohler Swiss Chocolate Co.....	61
Crystal Gelatine Company.....	14	Pick, Emil.....	61
Duche & Sons, T. M.....	68	Powers Regulator Company.....	32, 33
Dunn Co., Thos. W.....	66	Savage Bros. Co.....	35
Dupont Cellophance Co., Inc.....	57	H. Schultz & Co.....	60
Edgerton Mfg. Co.....	59	Seneff-Herr Co.....	4
Eppelsheimer & Company.....	66	Sinclair, Harold.....	Second Cover
Essex Gelatine Company.....	67	A. E. Staley Mfg. Co.....	61
Ferguson & Haas, Inc.....	40	Stein-Hall & Co., Inc.....	15
Fleisher & Co., W. L.....	34	Sturtevant Company, B. F.....	34
Foote & Jenks.....	63	Swift & Company.....	62
Fortune Products Company.....	64	Thurston & Braidich.....	68
Fries & Bros., Alex.....	65	Ungerer & Company.....	7
Fritzsche & Bros., Inc.....	6	United Chemical & Organic Company, The.....	10-11
H. Gamse & Bro.....	59	United States Gelatin Company.....	Back cover
Gilmer Co., L. H.....	41	Von Danneberg & Company.....	68
Haehnlen, L. S.....	64	Vacuum Candy Machinery Company.....	38
Haug & Co.....	64	White-Stokes Company, Inc.....	13
Ideal Cocoa & Chocolate Co.....	62	Whitten Company, J. O.....	63
Karl Pauli Corporation.....	59		



ers

age

16

61

66

65

67

39

60

15

63

5-37

sert

61

61

2, 33

35

60

4

over

61

15

34

62

68

7

10-11

cover

68

38

13

63

